

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT****ENGINEERING DIVISION****APPLICATION PROCESSING AND CALCULATIONS**

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T. LIEBEL	CDT

**APPLICANT:**

SFPP, L.P.  
1100 Town & Country Rd.  
Orange, Ca 92868

**EQUIPMENT LOCATION:**

2359 E. Riverside Ave.  
Bloomington, Ca. 92316

**INTRODUCTION**

SFPP, L.P. (ID 800129 with Sub ID 65382) is a bulk terminal facility located in Bloomington (Colton/Rialto) CA. SFPP, L.P. is a non-RECLAIM Title V facility. The initial Title V for this facility was issued on February 10, 2009.

This SFPP facility stores and loads a variety of petroleum products including gasoline, diesel, transmix, and ethanol. In October of 2007, SFPP submitted nine applications for a new project. This project is the first revision to the TV Permit. The project consists of:

- the construction of three new identical internal floating roof tanks;
- a change of conditions (commodity change) for an existing permitted internal floating roof tank;
- the construction of a new loading rack;
- change of conditions (throughput changes/increased control) and equipment description update to three existing permitted loading racks; and
- and a modification/change of condition (venting a new loading rack, increased control efficiency, and updated equipment description) to the existing vapor combustor system.

A CEQA document (Mitigated Negative Declaration or MND) for the project was also prepared by the City of Rialto and reviewed by the AQMD. In reviewing the CEQA document, it was determined that a new sump that was to be included in the project required a permit, and SFPP responded by filing a permit application for that sump in June of 2008 for a total of ten applications for the project. The equipment descriptions for the ten permit units in the project can be found below.

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**EQUIPMENT DESCRIPTION:**

APPLICATION NO. 474542 (Change of Condition PO; Section D)

STORAGE TANK NO. C-42, INTERNAL FLOATING ROOF, PETROLEUM DISTILLATES AND GASOLINE BLENDING COMPONENTS (INCLUDING OXYGENATES SUCH AS ETHANOL), 120'-0" DIA. x 48'-0" H., 88,000 BBL CAPACITY, WITH A FLOATING ROOF, WELDED SHELL, SINGLE DECK, MECHANICAL SHOE-TYPE PRIMARY SEAL, AND A COMPRESSION PLATE-TYPE SECONDARY SEAL.

APPLICATION NO. 474543 (New Construction PC-PO; Section D)

STORAGE TANK NO. C-43, INTERNAL FLOATING ROOF, PETROLEUM DISTILLATES AND GASOLINE BLENDING COMPONENTS (INCLUDING OXYGENATES SUCH AS ETHANOL), 120'-0" DIA. x 48'-0" H., 88,000 BBL CAPACITY, WITH A FLOATING ROOF, WELDED SHELL, SINGLE DECK, MECHANICAL SHOE-TYPE PRIMARY SEAL, AND A COMPRESSION PLATE-TYPE SECONDARY SEAL.

APPLICATION NO. 474544 (New Construction PC-PO; Section D)

STORAGE TANK NO. C-44, INTERNAL FLOATING ROOF, PETROLEUM DISTILLATES AND GASOLINE BLENDING COMPONENTS (INCLUDING OXYGENATES SUCH AS ETHANOL), 120'-0" DIA. x 48'-0" H., 88,000 BBL CAPACITY, WITH A FLOATING ROOF, WELDED SHELL, SINGLE DECK, MECHANICAL SHOE-TYPE PRIMARY SEAL, AND A COMPRESSION PLATE-TYPE SECONDARY SEAL.

APPLICATION NO. 474545 (New Construction (PC-PO; Section D)

STORAGE TANK NO. C-45, INTERNAL FLOATING ROOF, PETROLEUM DISTILLATES AND GASOLINE BLENDING COMPONENTS (INCLUDING OXYGENATES SUCH AS ETHANOL), 120'-0" DIA. x 48'-0" H., 88,000 BBL CAPACITY, WITH A FLOATING ROOF, WELDED SHELL, SINGLE DECK, MECHANICAL SHOE-TYPE PRIMARY SEAL, AND A COMPRESSION PLATE-TYPE SECONDARY SEAL.

APPLICATION NO. 481543 (New Construction PC-PO; Section D)

LOADING RACK SUMP NO. C-47, PETROLEUM DISTILLATES AND GASOLINE BLENDING COMPONENTS (INCLUDING OXYGENATES SUCH AS ETHANOL) 9'-0" DIA. X 21'-6" L., 10,000 GALLON CAPACITY, DOUBLE-WALLED AND VENTED TO AN AIR POLLUTION CONTROL SYSTEM.

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APPLICATION NO. 474546 (New Construction PC-PO; Section H)

**BULK LOADING RACK #7, TWO LANES, CONSISTING OF:**

1. SIXTEEN ORGANIC LIQUID BOTTOM LOADING ARMS, 4 INCH DIA.
2. FOUR VAPOR RETURN LINES, EACH 4 INCH DIA., VENTED TO A VAPOR CONTROL SYSTEM
3. STORAGE TANK, GASOLINE ADDITIVE, 10,000 GALLON CAPACITY, WITH TWO 2 H.P. TRANSFER PUMPS (ONE STANDBY)
4. TOTE, RED DYE, WITH TWO 2 H.P. TRANSFER PUMPS (ONE STANDBY)
5. FIVE 75 H.P. PUMPS

APPLICATION NO. 474547 (Change of Condition PO; Section D)

**BULK LOADING RACK #1, TWO LANES, CONSISTING OF:**

1. SIXTEEN ORGANIC LIQUID BOTTOM LOADING ARMS, 4 INCH DIA.
2. FOUR VAPOR RETURN LINES, EACH 3 INCH DIA., VENTED TO A VAPOR CONTROL SYSTEM
3. FOUR 75 H.P. PUMPS AND FOUR 20 H.P. PUMPS

APPLICATION NO. 474548 (Change of Condition PO; Section D)

**BULK LOADING RACK #6, TWO LANES, CONSISTING OF:**

1. SIXTEEN ORGANIC LIQUID BOTTOM LOADING ARMS, 4 INCH DIA.
2. FOUR VAPOR RETURN LINES, 3 INCH DIA., VENTED TO A VAPOR CONTROL SYSTEM
3. TWO STORAGE TANKS, GASOLINE ADDITIVE, 12,000 AND 5000 GALLON CAPACITY, WITH TWO 2 H.P. TRANSFER PUMPS (ONE STANDBY) FOR EACH TANK (FOUR PUMPS TOTAL).
4. THREE 75 H.P. PUMPS AND ONE 100 H.P. PUMP

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APPLICATION NO. 474549 (Change of Condition PO; Section D)

**BULK LOADING/UNLOADING RACK#2, FOUR LANES, CONSISTING OF:**

1. EIGHT ORGANIC LIQUID BOTTOM LOADING ARMS, EACH 4 INCH DIA.
2. TWO 4 INCH DIA. BOTTOM UNLOADING ARMS WITH TWO 3 INCH DIA. VAPOR BALANCE LINES
3. SIX VAPOR RETURN LINES, EACH 3 INCH DIA, CONNECTED TO VAPOR CONTROL SYSTEM
3. TWO 75 HP. PUMPS, TWO 25 H.P. PUMPS, AND TWO 5 HP. SUBMERSIBLE PUMPS

APPLICATION NO. 474550 (Change of Condition/Modification PC; Section H)

**MODIFICATION TO VAPOR RECOVERY COLLECTION AND DISPOSAL SYSTEM  
CONSISTING OF:**

1. ONE JOHN ZINK VAPOR COMBUSTION UNIT, 78 MM BTU/HR, 1250 CFM CAPACITY, PROPANE PILOT, AND A 9'-0" DIA. X 50'-0" H. STACK
2. ONE SATURATOR, CAPACITY 1200 GALLONS, 12'-0" DIA. X 4'-0" L.
3. SATURATOR GASOLINE PUMP, CENTRIFUGAL, WITH A 1.5 H.P. MOTOR.
4. ONE BLOWER, WASTE GAS BOOSTER, WITH 5 H.P. MOTOR.
5. POT, KNOCKOUT, 2'-0" DIA. x 6'-0" H.
6. ONE TANK, VAPOR HOLDER, NO. C-V1, 42,200 CU. FT. CAPACITY.
7. ONE TANK, VAPOR HOLDER, NO. C-V2, 28,200 CU. FT. CAPACITY.
8. TWO SURGE VESSELS, EACH 7'-0" DIA. X 21'-6" H., 147 BBL CAPACITY, FOR USE WITH TERMINAL BREAKOUT TANKS

BY CONNECTING NEW LOADING RACK #7 AND INSTALLATION OF A FLOW METER.

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**PROCESS DESCRIPTION**

The facility is a tank farm storage facility for liquid petroleum products, along with the dispensing of the petroleum products to truck tankers by way of loading racks. Some storage tanks are designated for single product storage, whereas, others are designated for storage of multiple products. Refineries in the area, through an underground pipeline system, transfer the petroleum to the tank farm for storage. Tank trucks from various oil/gasoline companies come to the facility to load their trucks with product. The trucks receive the product from loading racks/stations, which receive the product through lines from the storage tanks.

**PROJECT APPROACH/HISTORY**

The original approach of the project was to internally mitigate/offset emission increases by using the concurrent facility modification provision/exemption pursuant to Rule 1304(c)(2). This was to be accomplished changing conditions to existing throughputs, by "bubbling" various throughputs of loading racks and storage tanks, and by increasing thermal oxidizer performance (i.e., lowering the Rule 462 imposed limit of .08 lbs VOC/1000 gallons organic liquid loaded to some lower number). This approach was outlined in the CEQA document (MND) as well and subsequently affected other CEQA-related issues and mitigations associated with the project (e.g. emissions from truck visits). In April of 2008 the CEQA document was being reviewed by AQMD, the public, and other appropriate entities. The final permit evaluation was submitted for review in June, but due to other priority projects was not immediately reviewed. The CEQA document (MND) was certified on July 30, 2008 by the City of Rialto (See Appendix C).

However, in August, the approval of this project as proposed came under scrutiny as a result of a lawsuit against the District that targeted permits relying on Priority Reserve (Rule 1309) and Regulation XIII offset exemptions (Rule 1304), including concurrent facility modifications. The project was included on the AQMD's declaration to the court of pending projects that would rely on Rule 1304 exemptions (specifically, internal offsets/credits pursuant to Rule 1304(c)(2) – Concurrent Facility Modification). Pursuant to direction by AQMD Executive Management, this project was put on hold and not allowed to proceed under the concurrent facility modification provision in Rule 1304.

After informing SFPP of the 1304 matter, the company decided to change the approach of the project and decided to provide Emission Reduction Credits (ERCs) for any of the equipment modified or installed for this project that had emission increases. Simultaneously, however, SFPP would include various changes and operating conditions in order to show net project emission decreases to remain below CEQA emission thresholds and to be consistent with other related CEQA

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issues under which the original MND was approved. This matter was discussed with Steve Smith of the AQMD's CEQA team. Mr. Smith confirmed that the original MND could stand if the new project parameters did not result in nullifying the basis under which the MND was certified.

As will be shown in the calculations and discussions/rule evaluations below, SFFP has proposed a project that would satisfy stationary source considerations from the permitting perspective as well as the all of the considerations (stationary, mobile, etc.) from the CEQA perspective thus keeping the certified MND valid for the alternate proposal.

**EMISSION CALCULATIONS****Loading Racks**

For the existing loading racks (Racks #1, #2, and #6), the existing Rule 462 product throughputs (i.e., products with  $VP \geq 1.5$  psia which is primarily gasoline and ethanol at this facility) are currently required to meet controlled emission rate of 0.08 lbs VOC per 1000 gallons of organic liquid loaded. For this project, SFPP intends to decrease the Rule 462 product throughput for Rack #1. The Rule 462 product throughputs for Rack #2 and Rack #6 will remain unchanged. In addition, Rack # 2 will take a decrease in non-Rule 462 product throughput (diesel). This decrease in diesel will ensure that the number of truck visits remains the same as in the original MND (see CEQA Discussion below). In addition to these throughput changes for each of these three racks, there will be an increase in the level of control of the thermal oxidizer to which they vent. The new performance standard will be .02 lbs VOC per 1000 gallons of organic liquid loaded. This portion of the of the project results in a net decrease in emissions that will be also be used to preserve mitigation measures in the original MND that ensure that certain CEQA emission thresholds are not exceeded, and, for both permitting and CEQA purposes, that the original HRA remains valid.

Rack #7 is a new rack, thus any emissions from this rack constitute an emissions increase and thus are subject to BACT/LAER and emission offsets pursuant to Regulation XIII. Current achieved in practice LAER is .02 lbs VOC per 1000 gallons of liquid loaded and will be required to satisfy BACT for this major source. Any emissions that see atmosphere after application of this BACT standard will be required to be offset with Emission Reduction Credits (ERCs).

The table below summarizes the rack emissions from Rule 462 product loading are summarized in the table below:

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Rack	Pre-mod Rule 462 Product Throughput, (gals/d 30-day avg)	Pre-mod Control Factor, lbs/1000 gals	Pre-mod Emissions (lbs/d 30- day avg)	Post-mod Rule 462 Product Throughput, (gals/d 30-day avg)	Post-mod Control Factor, lbs/1000 gals	Post-mod Emissions (lbs/d 30- day avg)	Net Emission Increase Subject to Offsets (lbs/d 30-d avg)
#1	1,250,300	.08	100.02	950000	.02	19.00	0
#2	340,667	.08	27.25	340,667	.02	6.81	0
#6	747,853	.08	59.83	747853	.02	14.96	0
#7	N/A	N/A	0	1,600,000	.02	32	32
Total							32

There are also non-Rule 462 products (primarily diesel) that are limited on the current permits, and these values remain unchanged except for Rack #2 (as noted above). The racks will be permitted with limits for total product throughput and a separate limit for gasoline and transmix products. Current limits are in a variety of forms (gal/d, bbls/yr, etc.), but will be standardized to a bbls/month to properly baseline the permit units for future NSR evaluations.

In addition to the gasoline limit on Rack # 7, there will also be a diesel limit of 400,000 gals/day. The AP-42 loading equation will be used as follows:

$$\text{Loading loss per 1000 gallons} = (12.46 \times \text{SMP})/T =$$

$$(\text{Saturation Factor} \times \text{Molecular Weight} \times \text{Vapor Pressure})/\text{Temperature } R^{\circ} =$$

$$[(12.46)(1)(130)(.01)]/526 = .0308 \text{ lbs} \times 400 = 12.3 \text{ lbs/d}$$

$$\text{At 99\% control, this equals } 12.3 \times (1 - .99) = 0.12 \text{ lbs/d}$$

Lastly, there is an additive storage tank. Technically, this tank is Rule 219 exempt via size and vapor pressure, but has been included in Rack # 7's equipment description. The emissions from this tank was calculated using the EPA Tanks Program 4.09d at determined to be 0.91 lbs per day (see Appendix A for spreadsheets).

$$\text{The total emission increases from the racks is therefore } 32 + 0.12 = .91 = 33.03 \text{ lbs/d}$$

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**Storage Tanks**

The EPA Tanks Program 4.09d (Appendix A for spreadsheets) was run to determine the storage tank emissions. From the program, the annual emissions were averaged over the twelve months to determine the maximum monthly emissions and then the 30-day average was computed for NSR purposes.

Tank No. C-42 is a currently a diesel storage tank that will also now be used to store gasoline. The current permit limits below will be used to baseline the diesel emissions for this tank:

Content: Diesel @ 0.1 psi V.P.

Total current permitted monthly throughput = 1,733,333 bbls/mo.

Total annual emissions from EPA Tanks Program 4.09d = 1198.52 lbs/yr.

Total permit limit to be imposed after allowing gasoline to be stored: 1,733,333 bbls/mo.

Total annual emissions from EPA Tanks Program 4.09d for worst-case gasoline being stored @ 8.4 psi V.P. = 5589.1 lbs/yr.

Net annual emission increase = 5589.1 lbs/yr – 1198.52 lbs/yr = 4390.2 lbs/yr

Net increase on a 30-day average = 4390.2 lbs/yr x yr/12 mo. x mo./30 days =

R1 = R2 = .65 lbs/hr (assumes max = avg. for AEIS purposes).

New tanks C-43, C-44, and C-45 are identical in design and will be used to store both gasoline and diesel. Gasoline will be used as a worst case scenario. For each tank:

Contents: Gasoline @ 8.4 psi V.P.

Turnovers per year = 160; Tank Capacity = 88,000 bbls

Total monthly throughput =

160 turnovers/yr x 88,000 bbls/turnover x yr/12 months = 1, 733,333 bbls/mo.

Total annual emissions from EPA Tanks Program 4.09d = 5589.1 lbs/yr

30-day avg. = 5589.1 lbs/yr x yr/12 mo. x mo./30 days = 15.53 lbs/day (each tank) =

0.65 lbs/hr = R1 = R2 (assumes max = avg. for AEIS purposes).



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**Loading Rack Sump**

The new loading rack will have a sump. The purpose of the sump is to handle wash down from the loading racks. The sump has a capacity of 10,000 gallons, but will typically handle about 20,000 gallons per month. The make-up of the liquid will be 90% water and 10% product. The emissions calculations will be based on the maximum emission factors for filling an underground tank found in Table 5.2-7 of AP-42.

The emission factor is 11.5 lbs/gallon. An additional 1 lb/gallon will be added for breathing losses, which equates to 12.5 lbs/gallon. The sump will vented to the thermal oxidizer @ 99% efficiency. Therefore, the emissions will be:

$$12.5 \text{ lbs/1000 gal} \times 20,000 \text{ gal/month} \times \text{month}/30 \text{ days} \times (1-.99) = 0.083 \text{ lbs/day} = .003 \text{ lbs/hr} = R2.$$

$$R1 = R2/.01 = .35 \text{ lbs/hr.}$$

**Emissions from Fugitive Components:**

There are also fugitive emissions associated with the new loading rack and the three new storage tanks as there are emissions from fugitive components such as valves, pumps, flanges/connectors, etc. (Fugitive emissions from such components have already been accounted for in previous engineering evaluations for the existing storage tank C-42 and Racks Nos. 1, 2 and 6).

SFPP originally used EPA's publication of fugitive emission factors for Marketing Terminals to calculate fugitive emissions and arrived at the final values below:

$$\text{Loading Rack \#7} = 0.95 \text{ lbs/day}$$

$$\text{Tank C-43} = 0.17 \text{ lbs/day}$$

$$\text{Tank C-44} = 0.17 \text{ lbs /day}$$

$$\text{Tank C-45} = 0.04 \text{ lbs/day}$$

This approach, however, is not acceptable, as the AQMD uses its own publication, Guideline for Fugitive Emissions Calculations, to determine appropriate fugitive emissions. AQMD's guidelines uses a correlation factor used by EPA equating emissions with varying leak limitation values. At 180 ppm, the EPA correlation yielded the follow fugitive emissions:

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Loading Rack #7 = 5.46 lbs/day

Tank C-43 = 0.85 lbs/day

Tank C-44 = 0.85 lbs /day

Tank C-45 = 0.29 lbs/day

Total Fugitives =  $5.46 + 0.85 + 0.85 + 0.29 = 7.45$  lbs per day.

As can be seen, the fugitive emissions as calculated by the EPA's correlation (See Appendix B for spreadsheets) method yield significantly higher emissions than originally calculated by SFPP using the Marketing Terminal factors. The emission values result from using a maximum leak value of 180 ppm. The 180 ppm limit will be imposed on all three storage tanks and Rack #7. In addition, since Rack #7's fugitive emissions exceed one pound per day, BACT is triggered, and conditions will be imposed on the rack requiring the installation of bellow seal valves where feasible.

**Emission Reduction Credits**

The ROG emission increases (30-day average, lbs/day) from the installation of new Rack #7, the change of commodity in Tank C-42, the installation of Tanks C-43, C-44, C-45, the installation of the loading rack sump, and all the associated fugitives are:

$$33.03 + 12.2 + (3 \times 15.53) + .083 + 7.45 = 99.353 \text{ lbs/d} = 99 \text{ lbs/day}$$

Applying the 1.2 offset factor per Rule 1306(b)(2)(A):

$$99 \text{ lbs/day} \times 1.2 = 118.8 = 119 \text{ lbs/day}$$

**Thermal Oxidizer**

ROG emissions from the thermal oxidizer are generally accounted for on the basic equipment, in this case, the loading racks and the loading rack sump, which are vented to the oxidizer.

There is no increase in the maximum rating of the burner. The equipment description for the thermal oxidizer also includes a maximum capacity in terms of CFM that the unit can handle (1250 cfm). A condition will be added to require a flow meter to be installed and for the cfm to be measured and recorded. This better ensures that no increase in combustion contaminants will occur.

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SFPP wishes to source test the thermal oxidizer in the future at lower combustion temperatures. A condition will also be added to allow them to propose this in the future. In the mean time, a source test condition requiring testing for benzene and NOx will be added to establish baseline health risk/NSR issues that may interplay with the lowering of oxidation temperatures.

**HEALTH RISK ASSESSMENT**

The new loading rack and sump vent to the thermal oxidizer. Though each of these equipment have individual emission increases, three other racks that are a part of this project also vent to the thermal oxidizer and the overall emissions from the emission point (thermal oxidizer stack) have decreased, thus, 1401 does not apply.

However, the four storage tanks have emission increases subject to Rule 1401. A Screen III health risk assessment (See Appendix D), was performed for the four storage tanks. Benzene is the carcinogen of concern. The results are as follows:

Tank No.	Off-site Worker Receptor Distance	MICR	Residential/Sensitive Receptor Distance	MICR
C-42	205 meters	$1.68 \times 10^{-7}$	390 meters	$4.05 \times 10^{-7}$
C-43	107 meters	$2.09 \times 10^{-7}$	313 meters	$5.47 \times 10^{-7}$
C-44	155 meters	$1.95 \times 10^{-7}$	378 meters	$4.24 \times 10^{-7}$
C-45	107 meters	$2.09 \times 10^{-7}$	375 meters	$4.29 \times 10^{-7}$

As can be seen, the MICR is less than one in one million for each storage tank. Hazard indices (both chronic and acute) were also calculated for the tanks for BTEX compounds, hexane, and naphthalene. Both the HIC and HIA values were on the order of  $10^{-4}$  or lower and well below the 1.0 threshold in Rule 1401.

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**RULE EVALUATION**

**Rule 212:**

Though the project results in an overall net decrease of VOC emissions, installation of the new loading rack exceeds the Rule 212 (g) threshold of 30 pounds per day, therefore, Public Notice is required on this basis. The notice will be done in conjunction with the Title V Public Notice (significant revision).

**Rule 401:**

Visible emissions are not expected under normal operation from the racks, sump, storage tanks, and thermal oxidizer.

**Rule 402:**

Compliance records indicate that there are no N/C and NOV's for the past three years and the facility is expected to continue in compliance with the rule.

**Rule 462:**

All of the loading racks in this project will be required to comply with an emission limit of .02 lbs/1000 gallons organic liquid loaded which is more stringent than the .08 lb/1000 gallon limit of Rule 462. Previous performance tests indicate that meeting this limit is easily achievable. Facility has an approved Rule 462 CMS plan and can be found in Section I of the Title V permit. In addition, the rack and thermal oxidizer will be required to undergo testing for CARB certification pursuant to Rule 462 (d)(1)(A).

**Rule 463:**

Internal floating roof tank equipped with Category A mechanical shoe-type primary seals and compression-type secondary seals (with wipers). Both primary and secondary seals are independently attached, separate from each other. The concentration of organic vapors in the vapor space cannot exceed 30% of LEL. Proper recordkeeping and monitoring will be required. Facility has approved Rule 463 Compliance Plan and is included in Section I of facility's Title V permit. Compliance with this rule is expected.

**Rule 1149:**

New tanks are not directly connected to the thermal oxidizer but SFPP has indicated that these tanks will be degassed by contractors and VOC emissions during cleaning and degassing of the storage tanks are to be controlled by one of the control methods mentioned in this rule and conditioned as such on the permits. Compliance is expected.

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Rule 1166:

Rule 1166 not expected to be applicable as a result of soil movement for installation of new storage tanks, sump, and Rack # 7. If required to comply however, SFPP will file Rule 1166 excavation plan or use contractor holding valid various location R1166 Plan.

Rule 1173:

Facility-wide conditions on Title V permit requires applicable requirements of Rule 1173 to be complied with. SFPP has provided proposed installed fugitive count for the new tanks and new Rack No. 7. SFPP will also be required to provide an updated fugitive count when construction has been completed. Compliance is expected.

Rule 1178:

The new tanks meet the design requirements for internal floating roof tanks as required by this rule including proper gasketing of ladder wells and sliding covers. As with Rule 463 requirements, the applicant will be required to ensure that the organic vapor concentration in the vapor space is less than 30% of its LEL. Compliance is expected.

REGULATION XIII – New Source Review

1303(a)(1) – (BACT):

Existing Tank C-42 is equipped with Category A mechanical shoe-type primary seals and rim-mounted compression-type secondary seals with wipers.

The applicant has proposed to install these same state of the art Category A mechanical shoe-type primary seals and rim-mounted compression-type secondary seals with wipers for the three new storage tanks (C-43, C-44, C-45). These Category A seals satisfy BACT. BACT for fugitives is not triggered for these new tanks since fugitive emissions for each tank is less than one pound per day using the correlation method and a 180 ppm limit.

New Rack # 7 required to meet Major Source BACT/LAER limit of 0.02 lbs VOC per 1000 gallons of organic liquid loaded. Past source test data indicates that this limit is easily achievable. Emissions from rack fugitive components are greater than one pound per day and trigger BACT. Bellow seal valves required by permit condition where achievable.

The loading rack sump is vented to thermal oxidizer and deemed BACT.

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**1303(b)(2) Modeling & Offsets:**

Modeling is not required for ROG.

Emission increases from the storage tanks, new loading rack, sump and fugitive components required to be offset with 1.2 factor. Total offsets required is 119 lbs/day. SFPP has filed for ERC Change of Title to transfer appropriate ERCs to ID 800129. Actual access of offsets in NSR program will occur after completion of public notice and EPA review.

**1303 (b)(4) Facility Compliance:**

This facility is in compliance with the rules and regulations of the District.

**1303(b)(5) Major Polluting Facility.**

This is a major polluting facility. SFPP has submitted a letter certifying statewide compliance (See Appendix G). Additionally, SFPP has demonstrated compliance with CEQA (see CEQA discussion below). A Mitigated Negative Declaration (MND) was certified by the City of Rialto on July 30, 2008 (see Appendix C).

**Rule 1401:**

The maximum toxic constituents for each storage tank yield MICR values less than one in a million. HIA and HIC are each less than 1.0 as required by Rule 1401. Since new Rack # 7 and sump are vented to APC equipment with concurrent facility modifications that result in a net emissions decrease, Rule 1401 does not apply. Compliance is expected with proper conditions (commodities and throughputs) imposed on permits.

**Regulation XX (Reclaim)**

Facility is not part of the RECLAIM program.

**Regulation XXX (Title V)**

Facility is a Title V facility whose initial Title V permit was issued on February 10, 2009. This is the first revision to the Title V Permit. Since the change in commodity to Tank C-42 and the installation of the three new storage tanks (Tank C-43, C-44, and C-45) trigger a New Source Performance Standard (40 CFR60 Subpart Kb), this revision is considered to be a significant Title V revision it is required to undergo a 30-day public notice and 45-day EPA review. The 30-day notice will be done in conjunction with the 30-day Rule 212 Public Notice. The Title V portion of the notice will also include two storage tanks (A/Ns 458890 and 458976) that were issued non-

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT****ENGINEERING DIVISION****APPLICATION PROCESSING AND CALCULATIONS**

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T. LIEBEL	

Title V permits prior to the issuance of SFPP's initial Title V permit. Each tank was subject to Kb and thus constitute noticing as a significant revision.

**CEQA:**

SFPP, L.P. prepared a Mitigated Negative Declaration (MND) that as certified by the City of Rialto on July 30, 2008 (See Appendix C). The original project proposal was slightly altered after the certification. Discussions with AQMD CEQA staff revealed that if the project alterations result in no changes that would affect the MND, that the MND could still stand and satisfy CEQA requirements. Summarized below are key aspects of the CEQA document for the original project and the altered project:

<b>Project</b>	<b>CEQA 55 lb/d Threshold</b>	<b>Product Throughput (Basis for # of truck visits)</b>	<b>Construction Emissions</b>	<b>HRA</b>
Original Proposal	54.06 lbs/day	3,255,000 gals/day	Unchanged	Unchanged
Altered Proposal	53.39 lbs/day	3,255,000 gals/day	Unchanged	Unchanged

As can be seen, the CEQA threshold of 55 lbs/day under which the MND was certified remained in tact as did the number of truck visits (which was based on product throughput in the original MND). Diesel particulate matter (DPM) was the mobile source health risk driver, and thus, since the number of truck visits remain unaltered, the HRA was not affected. Lastly, the construction emissions also remain the same for installation of the three new storage tanks, the new loading rack, and the loading rack sump. An Executive Summary of the comparisons of the original and altered proposal can be found in Appendix E.

**40 CFR 60 Subpart Kb**

These new internal floating roof tanks will be equipped with primary and secondary seals and will contain commodities with a TVP less than 11 psi. Compliance with Kb is expected and will be specifically conditioned as such on each tank permit.

**40 CFR 60 Subpart XX**

The new loading rack (Rack #7) is subject to this NSPS and both the rack and the oxidizer permit will be required to meet the applicable emission requirement of 35 MG/L of organic liquid loaded. Previous performance tests indicate that meeting this limit is easily achievable.

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING DIVISION**

**APPLICATION PROCESSING AND CALCULATIONS**

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40 CFR 63 Subpart R

This facility is subject to the minor source requirements of this NESHAP as specified in the facility wide conditions and in Section J of the Title V permit.

40 CFR 63 Subpart BBBBBB

Since this facility is not a major source of HAPs and subject to the major source requirements of 40 CFR 63 Subpart R, it is required to comply with the gasoline distribution GACT (40 CFR 63 Subpart BBBBBB) and is conditioned as such in the facility wide conditions and Section J of their Title V permit.

**CONCLUSIONS AND RECOMMENDATIONS:**

This project will meet all District Rules and Regulations. It is recommended that Permits to Construct, Permits to Construct/Operate, and Permits to Operate. See attached sample permits for final proposed equipment descriptions and conditions.



# APPENDIX A

# **TANKS 4.0.9d** **Emissions Report - Detail Format** **Tank Identification and Physical Characteristics**

*New Tanks*

## **Identification**

User Identification: Colton CT 43 or 44 or 45  
City: Riata  
State: California  
Company: SFPP, L.P.  
Type of Tank: Internal Floating Roof Tank  
Description: Colton Tanks 43 or 44 or 45

## **Tank Dimensions**

Diameter (ft): 120.00  
Volume (gallons): 3,696,000.00  
Turnovers: 160.00  
Self Supp. Roof? (y/n): N  
No. of Columns: 1.00  
Eff. Col. Diam. (ft): 1.00

## **Paint Characteristics**

Internal Shell Condition: Light Rust  
Shell Color/Shade: White/White  
Shell Condition: Good  
Roof Color/Shade: White/White  
Roof Condition: Good

## **Rim-Seal System**

Primary Seal: Mechanical Shoe  
Secondary Seal: Rim-mounted

## **Deck Characteristics**

Deck Fitting Category: Detail  
Deck Type: Welded

## **Deck Fitting/Status**

Access Hatch (24-in. Diam./Bolted Cover, Gasketed)  
Column Well (24-in. Diam./Pipe Col.-Sliding Cover, Gask.  
Sample Pipe or Well (24-in. Diam./Silt Fabric Seal 10% Open  
Slotted Guide-Pole/Sample Well/Gask. Sliding Cover, w. Float, Wiper  
Roof Leg or Hanger Well/Adjustable  
Vacuum Breaker (10-in. Diam./Weighted Mech. Actuation, Gask.  
Ladder Well (36-in. Diam./Sliding Cover, Gasketed)

Meteorological Data used in Emissions Calculations: Los Angeles C.O., California (Avg Atmospheric Pressure = 14.67 psia)

## **Quantity**

1  
1  
1  
2  
41  
2  
1

# TANKS 4.0.9d Emissions Report - Detail Format Liquid Contents of Storage Tank

Colton CT 43 or 44 or 45 - Internal Floating Roof Tank  
Rialto, California

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)		Vapor Pressure (psia)		Vapor Mol. Weight	Liquid Mass Fract.		Vapor Mass Fract.		Mol. Weight	Basis for Vapor Pressure Calculations
		Avg.	Min.	Max.	Avg.	Min.	Avg.	Min.		Max.	Weight	Fract.	Fract.		
Gasoline (RVP 13)	Jan	63.80	59.35	69.25	65.99		7.4545	N/A	N/A	62.0000	92.00			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	Feb	64.91	60.15	69.67	65.99		7.6074	N/A	N/A	62.0000	92.00			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	Mar	65.88	60.09	70.68	65.99		7.7164	N/A	N/A	62.0000	92.00			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 7.8)	Apr	67.37	61.82	72.91	65.99		4.5483	N/A	N/A	68.0000	92.00			92.00	Option 4: RVP=7.8, ASTM Slope=3
Gasoline (RVP 7.8)	May	69.64	63.30	73.87	65.99		4.6622	N/A	N/A	68.0000	92.00			92.00	Option 4: RVP=7.8, ASTM Slope=3
Gasoline (RVP 7.8)	Jun	70.44	64.85	76.03	65.99		4.8275	N/A	N/A	68.0000	92.00			92.00	Option 4: RVP=7.8, ASTM Slope=3
Gasoline (RVP 8)	Jul	72.67	66.46	78.87	65.99		5.1785	N/A	N/A	68.0000	92.00			92.00	Option 4: RVP=8, ASTM Slope=3
Gasoline (RVP 8)	Aug	72.78	66.93	78.64	65.99		5.1903	N/A	N/A	68.0000	92.00			92.00	Option 4: RVP=8, ASTM Slope=3
Gasoline (RVP 8)	Sep	71.62	66.36	76.88	65.99		5.0759	N/A	N/A	68.0000	92.00			92.00	Option 4: RVP=8, ASTM Slope=3
Gasoline (RVP 8)	Oct	69.38	64.44	74.33	65.99		4.7302	N/A	N/A	68.0000	92.00			92.00	Option 4: RVP=8, ASTM Slope=3
Gasoline (RVP 7.8)	Nov	65.99	61.40	70.59	65.99		6.7625	N/A	N/A	65.0000	92.00			92.00	Option 4: RVP=11.5, ASTM Slope=3
Gasoline (RVP 11.5)	Dec	63.72	59.31	68.12	65.99		7.4428	N/A	N/A	62.0000	92.00			92.00	Option 4: RVP=13, ASTM Slope=3



## Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Colton CT 43 or 44 or 45 - Internal Floating Roof Tank  
Rialto, California

Components	Rim Seal Loss	Withdrawal Loss	Losses(lbs)			Total Emissions
			Deck Filling Loss	Deck Seam Loss		
Gasoline (RVP 7.8)	156.74	312.39	1,029.46	0.00		1,498.59
Gasoline (RVP 11.5)	60.00	78.10	394.08	0.00		532.17
Gasoline (RVP 8)	131.71	234.29	865.07	0.00		1,231.07
Gasoline (RVP 13)	266.23	312.39	1,748.63	0.00		2,327.25

$\Sigma = 5589.1 \text{ lbs/yr}$



# TANKS 4.0.9d Emissions Report - Detail Format Tank Identification and Physical Characteristics

**Identification**  
User Identification: Cotton on Diesel  
City: Los Angeles C.O.  
State: California  
Company: SFP, L.P.  
Type of Tank: Internal Floating Roof Tank  
Description: Cotton on Diesel

**Tank Dimensions**  
Diameter (ft): 120.00  
Volume (gallons): 3,696,000.00  
Turnovers: 160.00  
Self Supp. Roof? (y/n): N  
No. of Columns: 1.00  
Eff. Col. Diam. (ft): 1.00

**Paint Characteristics**  
Internal Shell Condition: Light Rust  
Shell Color/Shade: White/White  
Shell Condition: Good  
Roof Color/Shade: White/White  
Roof Condition: Good

**Rim-Seal System**  
Primary Seal: Mechanical Shoe  
Secondary Seal: Rim-mounted

**Deck Characteristics**  
Deck Fitting Category: Detail  
Deck Type: Welded

**Deck Fitting/Status**

Access Hatch (24-in. Diam./Bolted Cover, Gasketed)	Quantity
Column Well (24-in. Diam./Pipe Col.-Sliding Cover, Gask.	1
Sample Pipe or Well (24-in. Diam./Silt Fabric Seal 10% Open	1
Slotted Guide-Pole/Sample Well/Gask. Sliding Cover, w. Float, Wiper	1
Roof Leg or Hanger Well/Adjustable	2
Vacuum Breaker (10-in. Diam./Weighted Mech. Actuation, Gask.	41
Ladder Well (36-in. Diam./Sliding Cover, Gasketed)	2
	1

Meteorological Data used in Emissions Calculations: Los Angeles C.O., California (Avg Atmospheric Pressure = 14.67 psia)

Existing Tank E-42 Baseline Emissions

Colton on Diesel - Internal Floating Roof Tank  
Los Angeles C.O., California

TANKS 4.0.9d  
Emissions Report - Detail Format  
Liquid Contents of Storage Tank

Mixture Component	Month	Daily Liquid Surf. Temperature (deg F)			Liquid Bulk Temp (deg F)	Vapor Pressure (psia)			Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
		Avg	Min.	Max.		Avg	Min.	Max.					
Distillate fuel oil no. 2	Jan	63.80	59.36	68.25	65.98	0.0075	N/A	N/A	130.0000			188.00	Option 1: VP60 = .0065 VP70 = .009
Distillate fuel oil no. 2	Feb	64.91	60.15	68.67	65.98	0.0077	N/A	N/A	130.0000			188.00	Option 1: VP60 = .0065 VP70 = .009
Distillate fuel oil no. 2	Mar	65.58	60.69	70.88	65.98	0.0078	N/A	N/A	130.0000			188.00	Option 1: VP60 = .0065 VP70 = .009
Distillate fuel oil no. 2	Apr	67.37	61.82	72.91	65.98	0.0083	N/A	N/A	130.0000			188.00	Option 1: VP60 = .0065 VP70 = .009
Distillate fuel oil no. 2	May	68.64	63.30	73.97	65.99	0.0087	N/A	N/A	130.0000			188.00	Option 1: VP60 = .0065 VP70 = .009
Distillate fuel oil no. 2	Jun	70.44	64.85	76.03	65.99	0.0091	N/A	N/A	130.0000			188.00	Option 1: VP70 = .009 VP80 = .012
Distillate fuel oil no. 2	Jul	72.67	66.46	78.67	65.98	0.0098	N/A	N/A	130.0000			188.00	Option 1: VP70 = .009 VP80 = .012
Distillate fuel oil no. 2	Aug	72.76	66.93	78.64	65.98	0.0098	N/A	N/A	130.0000			188.00	Option 1: VP70 = .009 VP80 = .012
Distillate fuel oil no. 2	Sep	71.52	66.36	76.88	65.98	0.0085	N/A	N/A	130.0000			188.00	Option 1: VP70 = .009 VP80 = .012
Distillate fuel oil no. 2	Oct	69.38	64.44	74.33	65.99	0.0086	N/A	N/A	130.0000			188.00	Option 1: VP60 = .0065 VP70 = .009
Distillate fuel oil no. 2	Nov	65.99	61.40	70.59	65.99	0.0080	N/A	N/A	130.0000			188.00	Option 1: VP60 = .0065 VP70 = .009
Distillate fuel oil no. 2	Dec	63.72	59.31	68.12	65.98	0.0074	N/A	N/A	130.0000			188.00	Option 1: VP60 = .0065 VP70 = .009



# TANKS 4.0 Report

## TANKS 4.0.9d Emissions Report - Detail Format Detail Calculations (AP-42)

### Colton on Diesel - Internal Floating Roof Tank Los Angeles C.O., California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	0.0990	0.1027	0.1053	0.1109	0.1161	0.1214	0.1303	0.1307	0.1261	0.1176	0.1063	0.0987
Seal Factor A (lb-mole/ft <sup>2</sup> -yr):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Seal Factor B (lb-mole/ft <sup>2</sup> -yr)(m <sup>2</sup> /ft):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Value of Vapor Pressure Function:	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0075	0.0077	0.0078	0.0083	0.0087	0.0091	0.0098	0.0098	0.0095	0.0088	0.0080	0.0074
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Vapor Molecular Weight (lb/lb-mole):	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	99.0160	99.0160	99.0160	99.0160	99.0160	99.0160	99.0160	99.0160	99.0160	99.0160	99.0160	99.0160
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Net Throughput (gpm):	49.280.000	49.280.000	49.280.000	49.280.000	49.280.000	49.280.000	49.280.000	49.280.000	49.280.000	49.280.000	49.280.000	49.280.000
Sheel Change Factor (lb/1000 gpi):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000	7.1000
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Deck Filling Losses (lb):	0.6505	0.6746	0.6916	0.7383	0.7560	0.7972	0.8556	0.8587	0.8282	0.7723	0.6963	0.6486
Value of Vapor Pressure Function:	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001
Vapor Molecular Weight (lb/lb-mole):	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Filling Losses (lb-mole/yr):	472.8000	472.8000	472.8000	472.8000	472.8000	472.8000	472.8000	472.8000	472.8000	472.8000	472.8000	472.8000
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length:	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Factor (lb-mole/ft <sup>2</sup> -yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor (ft/yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Vapor Molecular Weight (lb/lb-mole):	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000	130.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	99.7955	99.7933	99.8125	99.8552	99.8871	99.9346	100.0019	100.0055	99.9703	99.9036	99.8207	99.7634

Roof Filling/Status	Quantity	K <sub>F</sub> (lb-mole/yr)	Roof Filling Loss Factors K <sub>F</sub> (lb-mole/yr)(m <sup>2</sup> /ft)	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	0.0003
Column Well (24-in. Diam.)/Pipe Col. Sliding Cover, Gask.	1	25.00	0.00	0.00	0.4739
Sample Pipe or Well (24-in. Diam.)/Self-Opening Seal 10% Open	1	12.00	0.00	0.00	0.2276
Slotted Guide-Pole/Sample Well/Gask. Sliding Cover, w. Float, Water	2	21.00	0.00	1.90	0.7962
Roof Leg or Hanger Well/Adjustable	41	7.90	0.00	0.00	6.1401
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	2	6.20	0.00	0.94	0.2351
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	1.0616

## TANKS 4.0.9d Emissions Report - Detail Format

## Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Cotton on Diesel - Internal Floating Roof Tank  
Los Angeles C.O., California

Components	Losses(lbs)					Total Emissions
	Rim Seal Loss	Withdrawal Loss	Deck Fitting Loss	Deck Seam Loss		
Distillate fuel oil no. 2	1.36	1,188.19	8.96	0.00		1,198.52

**TANKS 4.0.9d**  
**Emissions Report - Detail Format**  
**Tank Identification and Physical Characteristics**

**Identification**

User Identification:  
City:  
State:  
Company:  
Type of Tank:  
Description:

Test Additive Tank  
Rialto  
CA  
SEFP  
Vertical Fixed Roof Tank  
10000 gal

*Additive Tank associated w/ Rack #7*

**Tank Dimensions**

Shell Height (ft): 32.00  
Diameter (ft): 8.00  
Liquid Height (ft): 28.00  
Avg. Liquid Height (ft): 16.00  
Volume (gallons): 10,528.37  
Turnovers: 15.00  
Net Throughput(gal/yr): 157,925.53  
Is Tank Heated (Y/N): N

**Paint Characteristics**

Shell Color/Shade: White/White  
Shell Condition: Good  
Roof Color/Shade: White/White  
Roof Condition: Good

**Roof Characteristics**

Type: Cone  
Height (ft): 0.24  
Slope (ft/ft) (Cone Roof): 0.06

**Breather Vent Settings**

Vacuum Settings (psig): -0.03  
Pressure Settings (psig): 0.03

Meteorological Data used in Emissions Calculations: Los Angeles C.O., California (Avg Atmospheric Pressure = 14.67 psia)

**TANKS 4.0.9d**  
**Emissions Report - Detail Format**  
**Liquid Contents of Storage Tank**

**Test Additive Tank - Vertical Fixed Roof Tank**  
**Rialto, CA**

Mixture/Component	Daily Liquid Surf Temperature (deg F)			Liquid Bulk Temp (deg F)		Vapor Pressure (psia)			Vapor Mol. Weight		Liquid Mass Fract.		Vapor Mass Fract.		Mol. Weight		Basis for Vapor Pressure Calculations	
	Month	Avg.	Min.	Max.	Avg.	Min.	Max.	Weight	Mol.									
AP-297-20	All	68.08	62.92	73.24	65.96	0.0300	0.0300	0.0300	2.000	0.0000					2.000	0.0	Option 1: VP60 = .03 VP70 = .03	

# **TANKS 4.0.9d** **Emissions Report - Detail Format** **Detail Calculations (AP-42)**

## **Test Additive Tank - Vertical Fixed Roof Tank** **Rialto, CA**

### Annual Emission Calculations

Standing Losses (lb)	106.7493
Vapor Space Volume (cu ft)	808.2690
Vapor Density (lb/cu ft)	0.0106
Vapor Space Expansion Factor	0.0350
Vented Vapor Saturation Factor	0.9751
<b>Tank Vapor Space Volume</b>	
Vapor Space Volume (cu ft)	808.2690
Tank Diameter (ft)	8.0000
Vapor Space Outage (ft)	16.0000
Tank Shell Height (ft)	32.0000
Average Liquid Height (ft)	16.0000
Roof Outage (ft)	0.0000
<b>Roof Outage (Cone Roof)</b>	
Roof Outage (ft)	0.0000
Roof Height (ft)	0.2400
Roof Slope (ft/ft)	0.0600
Shell Radius (ft)	4.0000
<b>Vapor Density</b>	
Vapor Density (lb/cu ft)	0.0106
Vapor Molecular Weight (lb/lb-mole)	2.000.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia)	0.0000
Daily Avg. Liquid Surface Temp. (deg. R)	527.7526
Daily Average Ambient Temp. (deg. F)	65.6667
Ideal Gas Constant R	10.731
(psia-cuft / lb-mol-deg R)	525.6567
Liquid Bulk Temperature (deg. R)	0.1700
Tank Paint Solar Absorptance (Shell)	0.1700
Tank Paint Solar Absorptance (Roof)	0.1700
Daily Total Solar Insolation Factor (Btu/sqft-day)	1,567.1816
<b>Vapor Space Expansion Factor</b>	
Vapor Space Expansion Factor	0.0350
Daily Vapor Temperature Range (deg. R)	20.6478
Daily Vapor Pressure Range (psia)	0.0000
Breather Vent Press. Setting Range (psia)	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia)	0.0300
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia)	0.0300
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia)	0.0300
Daily Avg. Liquid Surface Temp. (deg. R)	527.7526
Daily Min. Liquid Surface Temp. (deg. R)	522.5906
Daily Max. Liquid Surface Temp. (deg. R)	532.9145
Daily Ambient Temp. Range (deg. R)	18.3167
<b>Vented Vapor Saturation Factor</b>	
Vented Vapor Saturation Factor	0.9751
Vapor Pressure at Daily Average Liquid Surface Temperature (psia)	0.0300

# TANKS 4.0 Report

Page 4 of 6

Vapor Space Outage (ft):	16.0900
Working Losses (lb):	225.6079
Vapor Molecular Weight (lb/lb-mole):	2.000.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.0300
Annual Net Throughput (gal/yr.):	157.925.5296
Annual Turnovers:	15.0000
Turnover Factor:	1.0000
Maximum Liquid Volume (gal):	10.528.3686
Maximum Liquid Height (ft):	28.0000
Tank Diameter (ft):	8.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	302.3572

**TANKS 4.0.9d**  
**Emissions Report - Detail Format**  
**Individual Tank Emission Totals**

**Emissions Report for: Annual**

Test Additive Tank - Vertical Fixed Roof Tank  
Rialto, CA

		Losses(lbs)	
Components	Working Loss	Breathing Loss	Total Emissions
AP-297-20	225.61	106.75	332.36

# **APPENDIX B**



Fugitive Component Count

Process Unit: SFPP Colton Tank C-43

Correlation Equation Factor, New Construction (500 ppm)					Correlation Equation Factor, New Construction (180 ppm)					
Source Unit	Service	No. Of Existing Components (1)	No. of Existing Components to be Removed (2)	No. of New Components to be Installed (3)	Correlation Equation Factor 500 ppm Screening Value	Current Emissions Based on Correlation 500 ppm Screening Value (lbs/year)	Post Modification Emissions based on Correlation 500 ppm Screening Value (lbs/year)	Correlation Equation Factor 180 ppm Screening Value (lbs/year)	Emissions based on 180 ppm Correlation Equation Factor (lbs/year)	
Valves	Sealed Ballows	All	0	0	0.00	-	0	0.00	-	
	ISO/OMD Approved	Gas / Vapor	0	0	4.55	-	-	2.12	80.53	
	USM Program	Light Liquid (4)	0	0	4.55	-	172.74	2.29	-	
		Heavy Liquid (6)				4.55	-	-	-	
Pumps		> 8 inches				-	-		-	
	Sealless Type	Light Liquid (4)	0	0	46.83	0	-		-	
	Double Mechanical Seals or Equivalent	Light Liquid (4)	0	0	46.83	-	-	24.80	-	
	Single Mechanical Seal	Heavy Liquid (6)	0	0	46.83	0	-	46.83	-	
Compressors		Gas / Vapor	0	0	9.09	-	-	9.09	-	
	Flanges (ANSI 16.5-1988)	All	0	0	66	6.99	-	461.35	3.40	224.28
	Connectors	All	0	0	0	2.86	-	-	1.46	-
	Pressure Relief Valves	All	0	0	0		-	-		-
Process Drains with P-trap or Seal Pot		All	0	0	9.09	-	-	9.09	-	
	Other (including fittings, hatches, sight glasses, and meters)	All	0	0	9.09	-	-	5.05	-	
	Total Emissions					-	834.09		304.80	
						-	1.76		0.85	
Emission Increase							634.09		304.80	
									0.85	

- 1 Any component currently installed prior to the modification.
- 2 Any component to be removed due to modification.
- 3 Any new component proposed to be installed due to the modification; this also includes new components to EF
- 4 Light liquid and gas/liquid streams: Liquid or gas/liquid stream with a vapor pressure greater than that of kerosene (>0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.
- 5 Heavy liquid: streams with a vapor pressure equal to or less than that of kerosene (<0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.

Fugitive Component Count

Process Unit: SFPP Cotton Tank C-44

Correlation Equation Factor, New Construction (500 ppm)					Correlation Equation Factor, New Construction (180 ppm)				
Source Unit	Service	No. Of Existing Components (1)	No. of Existing Components to be Removed (2)	No. of New Components to be Installed (3)	Correlation Equation Factor 500 ppm Screening Value	Current Emissions Based on Correlation 500 ppm Screening Value (lbs/year)	Post Modifications Emissions based on 500 ppm Correlation Equation Factor (lbs/year)	Correlation Equation Factor 180 ppm Screening Value (lbs/year)	Emissions based on 180 ppm Correlation Equation Factor (lbs/year)
Valves	Sealed Bellows	0	0	0	0.00	-	0	0.00	-
	SCAMP Approved	0	0	0	4.55	-	-	2.12	-
	API Program	0	0	38	4.55	-	172.74	2.29	80.53
	Heavy Liquid (5)				4.55	-	-		-
Pumps	Sealed Type		0	0	46.83	0			-
	Double Mechanical Seal or Equivalent Seal	0	0	0	46.83	-		24.80	-
	Light Liquid (4)				46.83	0		46.83	-
	Single Mechanical Seal				9.09	-		9.09	-
Compressors	Gas Vapor	0	0	66	6.99	-	461.35	3.40	224.28
	Flanges (ANSI 16.5-1988)	0	0	0	2.86	-	-	1.46	-
Connectors	All	0	0	0		-	-		-
Pressure Relief Valves	All	0	0	0		-	-		-
Process Drains with P-Trap or Seal Pot	All	0	0	0	9.09	-	-	9.09	-
Other (including fittings, hatches, sight-glasses, and meters)	All	0	0	0	9.09	-	-	5.05	-
Total Emissions	Industry					-	634.09		304.80
Emission Increase	Industry					-	1.76		0.85
	Industry						634.09		304.80
	Industry								0.85

1. Any component currently installed prior to the modification.
2. Any component to be removed due to modification.
3. Any new component proposed to be installed due to the modification; this also includes new components to EF
4. Light liquid and gas/liquid streams: liquid or gas/liquid stream with a vapor pressure greater than that of kerosene (<0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.
5. Heavy liquid: streams with a vapor pressure equal to or less than that of kerosene (<0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.

Fugitive Component Count

Process Unit: SFPF Cotton Tank C-45

Correlation Equation Factor, New Construction (500 ppm)					Correlation Equation Factor, New Construction (180 ppm)				
Source Unit	Service	No. of Existing Components (1)	No. of Existing Components to be Removed (2)	No. of New Components to be Installed (3)	Correlation Equation Factor 500 ppm Screening Value	Current Emissions Based on Correlation 500 ppm Screening Value (lbs/year)	Post Modification Emissions based on 500 ppm Correlation Equation Factor (lbs/year)	Correlation Equation Factor 180 ppm Screening Value (lbs/year)	Emissions based on 180 ppm Correlation Equation Factor (lbs/year)
Valves	Sealed Bellows	0	0	0	0.00	-	0	0.00	-
	SCADA's Approved	0	0	0	4.55	-	-	2.12	-
	I&M Program	0	0	14	4.55	-	63.64	2.29	29.67
	Light Liquid (4)				4.55	-	-		-
	Heavy Liquid (6)					-	-		-
	> 8 inches					-	-		-
Pumps	Sealless Type		0	0	46.83	0	-		-
	Double Mechanical Seal or Equivalent								
	Light Liquid (4)	0	0	0	46.83	-	-	24.80	-
	Single Mechanical Seal		0		46.83	0	-	46.83	-
Compressors	Heavy Liquid (2)	0	0		9.09	-	-	9.09	-
	Gas / Vapor	0	0	22	6.99	-	153.78	3.40	74.76
Flanges (ANSI 16.5-1988)	All	0	0	0	2.86	-	-	1.46	-
Connectors	All	0	0	0		-	-		-
Pressure Relief Valves	All	0	0	0		-	-		-
Process Drains with P-Trap or Seal Pot	All	0	0	0	9.09	-	-	9.09	-
Other (including fittings, hatches, sight-glasses, and meters)	All	0	0	0	9.09	-	-	5.05	-
Total Emissions						-	217.42		104.43
						-	0.60		0.29
Emission Increase							217.42		104.43
									0.29

- 1 Any component currently installed prior to the modification.
- 2 Any component to be removed due to modification.
- 3 Any new component proposed to be installed due to the modification; this also includes new components to EF
- 4 Light liquid and gas/liquid streams: Liquid or gas/liquid stream with a vapor pressure greater than that of kerosene (<0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.
- 5 Heavy Liquid: streams with a vapor pressure equal to or less than that of kerosene (<0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.

# Fugitive Component Count

Process Unit: SFPP Cotton Rack No. 7

Correlation Equation Factor, New Construction (500 ppm)					Correlation Equation Factor, New Construction (180 ppm)				
Source Unit	Service	No. of Existing Components (1)	No. of Existing Components to be Removed (2)	No. of New Components to be Installed (3)	Correlation Equation Factor 500 ppm Screening Value	Current Emissions Based on Correlation 500 ppm Screening Value (lbs/year)	Port Modifications Emissions based on 500 ppm Correlation Equation Factor (lbs/year)	Correlation Equation Factor 180 ppm Screening Value (lbs/year)	Emissions based on 180 ppm Correlation Equation Factor (lbs/year)
Valves	Sealed Bellows	0	0	0	0.00	-	0		-
	SCAMRD Approved	0	0	24	4.55	-	109.10	2.12	50.86
	ICM Program	0	0	160	4.55	-	727.32	2.12	339.06
	Light Liquid (4)			60	4.55	-	272.74	2.12	127.15
Pumps	Heavy Liquid (5)					-			-
	> 8 inches								
	Sealless Type		0	0	46.83	0			-
	Double Mechanical Seal or Equivalent			3	46.83	-	140.48	24.80	74.41
Compressors	Single Mechanical Seal		0	4	46.83	0	187.30	24.80	99.21
	Heavy Liquid (5)								
	Gas/Vapor	0	0		9.09	-		9.09	-
	Flanges (ANSI 16.5, 1988)	0	0	195	6.99	-	1,363.09	3.40	662.63
Connectors		0		453	2.86	-	1,286.21	1.35	611.10
	Process Relief Valves	0	0	0		-			-
	Process Drain with P-Trap or Seal Pot	0	0	0	9.09	-		9.09	-
	Other (including fittings, hatches, sight-glasses, and meters)	0	0	0	9.09	-		5.05	-
Total Emissions						-	4,096.23		1,964.43
						-	11.38		5.46
Emission Increase						-	4,096.23		1,964.43
						-			5.46

- 1- Any component currently installed prior to the modification.
- 2- Any component to be removed due to modification.
- 3- Any new component proposed to be installed due to the modification; this also includes new components to
- 4- Light liquid and gas/liquid streams: Liquid or gas/liquid stream with a vapor pressure greater than that of kerosene (>0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.
- 5- Heavy Liquid: streams with a vapor pressure equal to or less than that of kerosene (< 0.1 psia @ 100°F or 689 Pa @ 38°C), based on the most volatile class present at 20% by volume.

# APPENDIX C



# *City of Rialto*

## *California*

August 5, 2008

Court Morgan  
URS Corporation  
2020 East First Street, Suite 400  
Santa Ana, CA 92705

RE: Conditional Development Permit No. 563

Dear Mr. Morgan:

The Planning Commission, at its meeting of July 30, 2008, reviewed your request for approval to construct three (3) 88,000 above ground storage tanks for finished petroleum products and a two-lane loading rack at an existing fuel facility (Kinder Morgan) located at 2359 South Riverside Avenue in the H-IND (Heavy Industrial) zone of the Agua Mansa Specific Plan and adopt a Mitigated Negative Declaration.

After consideration, the Commission approved the Conditional Development Permit No. 563 subject to the findings and conditions contained in Resolution No. 08-40. If you have any questions, or if we may be of further assistance, please do not hesitate to contact this office.

Sincerely,

Gina Gibson,  
Senior Planner

GG/dc

Attachments: Resolution

c: Engineering Division  
Building Division

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**BE IT RESOLVED** by the Planning Commission of the City of Rialto as follows:

SECTION 1. That the Planning Commission hereby determines that Conditional

- SECTION 2. That Kinder Morgan L.P. is hereby granted Conditional Development Permit

No. 563, to construct three 88,000 barrel above ground storage tanks and a two-lane loading rack

1 located at 2359 South Riverside, Avenue in the Heavy Industrial (H-IND) zone of the Agua  
2 Mansa Specific Plan.

3       SECTION 3. An Initial Study was prepared in accordance with the requirements of the  
4 California Environmental Quality Act (CEQA). Although the proposed project could have a  
5 significant effect on the environment, any potential impacts will be mitigated to level of  
6 insignificance. A Mitigated Negative Declaration and a Mitigation Monitoring Plan have been  
7 prepared. The Planning Commission hereby directs the Planning Division to file the necessary  
8 documentation with the Clerk of the Board of Supervisors for San Bernardino County.  
9

10       SECTION 4. That Conditional Development Permit No. 563 is granted to Kinder Morgan  
11 energy Partners L.P. in accordance with the plans and application on file with the Planning  
12 Division, subject to the following conditions:

- 13       1. This approval is granted for the construction of three 88,000 barrel above ground storage  
14       tanks and a two-lane loading rack as shown on the plans.
- 15       2. Prior to the issuance of building or grading permits for the proposed development, a  
16       Precise Plan of Design shall be approved by the City's Development Review Committee  
17       (DRC).
- 18       3. Proof of certification of the existing John Zink Vapor Burner Combustion System by the  
19       California Air Resources Board shall be submitted prior to issuance of a Certificate of  
20       Occupancy.
- 21       4. All requirements of the Southern California Air Quality management District shall be  
22       met prior to issuance of Building Permits.
- 23       5. This development proposal shall conform to all applicable requirements of the Zoning  
24       Ordinance and the General Plan.
- 25       6. The privileges granted by the Planning Commission pursuant to approval of this  
26       conditional development permit are valid for one (1) year from the effective date of  
27       approval. If the applicant fails to commence the project within one year of said  
28       effective date, this conditional development permit shall be null and void and any  
      privileges granted hereunder shall terminate automatically. If the applicant, or his or  
      her successor in interest, commences the project within one year of the effective date  
      of approval, the privileges granted hereunder will continue to inure to the property as  
      long as the property is used for the purpose for which the conditional development  
      permit was granted, and such uses remain compatible with adjacent property uses.



1 7. If the applicant fails to comply with any of the conditions of approval placed upon  
2 Conditional Development Permit No. 563 or any conditions placed upon the approval  
3 of the Precise Plan of Design required by Condition No. 2 above, the Planning  
4 Commission may initiate proceedings to revoke the Conditional Development Permit  
in accordance with the provisions of sections 18.66.070 through 18.66.090, inclusive,  
of the Rialto Municipal Code.

5 SECTION 5. The Chairperson of the Planning Commission shall sign the passage and  
6 adoption of this resolution and thereupon the same shall take effect and be in force.  
7

8 PASSED, APPROVED AND ADOPTED this 30th day of July 2008.

9  
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11 BETH GEORGE, CHAIR  
12 CITY OF RIALTO PLANNING COMMISSION  
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Receipt # 367216  
CLERK OF THE BOARD

DEC 26 2008

# NOTICE OF DETERMINATION

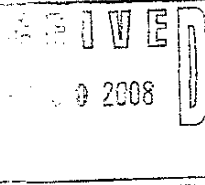
COUNTY OF

SAN BERNARDINO

To: ☐ Office of Planning and Research  
1400 Tenth Street, Room 121  
Sacramento, CA 95814

From: City of Rialto  
Development Services Department  
150 South Palm Avenue  
Rialto, CA 92376

☒ Clerk of the Board  
County of San Bernardino  
385 North Arrowhead Avenue  
San Bernardino, CA 92415



Subject: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the  
Public Resources Code

Project Title: Conditional Development Permit No. 563/ Environmental Review Assessment 07-43

State Clearinghouse Number: N/A

Lead Agency Contact Person: Gina M. Gibson, Senior Planner

Area Code/Telephone: (909) 421-7240

**Project Location:** The proposed project is located on the southeast corner of the existing Colton Terminal Petroleum Products Distribution Facility (Colton Terminal) at 2359 South Riverside Avenue in the City of Rialto, County of San Bernardino. The site is bounded by Slover Road to the north, the proposed Sycamore Avenue to the east, Santa Ana Avenue to the south and Riverside Avenue to the west.

**Project Description:** The proposed project involves the expansion of an existing facility consisting of the construction and operation of three new 88,000 barrel aboveground storage tanks and a two-lane loading rack at the Colton Terminal petroleum products distribution facility. The three tanks will be used for multi-product fuel storage (i.e., various grades of gasoline, jet fuel, diesel, or a combination of any of these petroleum liquids).

**Project Proponent & Address** Kinder Morgan Energy Partners, 1100 Town and Country Road, Orange CA 92868 (714) 560-4967

**Contact info & Phone:** URS Corporation, Court Morgan (714) 835 - 6886

This is to advise that the City of Rialto has approved the above described project on **February 13, 2008** and has made the following determinations regarding the above described project.

1. The project { ☒ will ☐ will not } have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
3. ☐ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures { ☒ were ☐ were not } made a condition of the approval of the project.
4. A statement of Overriding Considerations { ☐ was ☒ was not } adopted for this project.

This is to certify that the **Mitigated Negative Declaration** and record of project approval is available to the general public at the City of Rialto, Development Services Department, Planning Division, 150 South Palm Avenue, Rialto, CA 92376

Gina M. Gibson, Senior Planner

Date:

1/20/08

Date received for filing and posting at OPR:

DATE FILED & POSTED



CALIFORNIA DEPARTMENT OF FISH AND GAME  
**CERTIFICATE OF FEE EXEMPTION**

De Minimis Impact Finding

**Project Title/Location (include county):** Conditional Development Permit No. 563/ Environmental Review Assessment 07-43 at 2359 South Riverside Avenue in the City of Rialto San Bernardino County

**Project Description:** The proposed project involves the expansion of an existing facility consisting of the construction and operation of three new 88,000 barrel aboveground storage tanks and a two-lane loading rack at the Colton Terminal petroleum products distribution facility. The three tanks will be used for multi-product fuel storage (i.e., various grades of gasoline, jet fuel, diesel, or a combination of any of these petroleum liquids).


**Findings of Exemption (attach as necessary):** The proposed project is an expansion of an existing facility and will have no impact on wildlife.

**Project Proponent & Address:** Kinder Morgan Energy Partners, 1100 Town and Country Road, Orange CA 92868 (714) 560-4967

**Contact person & Phone:** URS Corporation, Court Morgan (714) 835 - 6886

**Certification:**

I hereby certify that the public agency has made the above finding and that the project will not individually or cumulatively have an adverse effect on wildlife resources, as defined in Section 711.2 of the Fish and Game Code.

  
\_\_\_\_\_  
Gina M. Gibson  
Title: Senior Planner  
Lead Agency: City of Rialto  
Date: 1/8/08



**CITY OF RIALTO  
150 SOUTH PALM AVENUE  
RIALTO, CALIFORNIA 92376**

**PROPOSED MITIGATED NEGATIVE DECLARATION**

In accordance with the City of Rialto policies regarding implementation of the California Environmental Quality Act (CEQA), the City has conducted an Initial Study to determine whether the following project may have a significant adverse effect on the environment and on the basis of that study hereby finds:

- ☒ Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
1. **Project title:** Conditional Development Permit No. 563/ Environmental Review Assessment 07-43
  2. **Lead agency name and address:** City of Rialto, Development Services Department, Planning Division, 150 South Palm Avenue, Rialto, California 92376
  3. **Contact person and phone number:** Gina M. Gibson, Senior Planner (909) 421-7240
  4. **Project location:** The proposed project is located on the southeast corner of the existing Colton Terminal Petroleum Products Distribution Facility (Colton Terminal) at 2359 South Riverside Avenue in the City of Rialto, County of San Bernardino. The site is bounded by Slover Road to the north, the proposed Sycamore Avenue to the east, Santa Ana Avenue to the south and Riverside Avenue to the west.
  5. **Project sponsor's name and address:** Kinder Morgan Energy Partners, 1100 Town and Country Road, Orange CA 92868 (714) 560-4967
  6. **Contact Name & Phone:** URS Corporation, Court Morgan (714) 835 - 6886
  7. **Description of project:** The proposed project involves the expansion of an existing facility consisting of the construction and operation of three new 88,000 barrel aboveground storage tanks and a two-lane loading rack at the Colton Terminal petroleum products distribution facility. The three tanks will be used for multi-product fuel storage (i.e., various grades of gasoline, jet fuel, diesel, or a combination of any of these petroleum liquids).

Signature: \_\_\_\_\_

Gina M. Gibson, Senior Planner

Date: \_\_\_\_\_

1/8/00



STATE OF CALIFORNIA - THE RESOURCES AGENCY  
DEPARTMENT OF FISH AND GAME  
ENVIRONMENTAL FILING FEE CASH RECEIPT

367216

Lead Agency: City of Rialto Date: 12-26-08  
County/State Agency of Filing: San Bernardino, CA Document No.: \_\_\_\_\_  
Project Title: Cond. Dev. Permit #563 Envir. Review Assess. 07-43  
Project Applicant Name: City of Rialto Dev Service Department  
Project Applicant Address: 150 S. Palm Ave  
City: Rialto State: CA Zip Code: 92376 Phone Number: (909) 421-7240

Project Applicant (check appropriate box):

☒ Local Public Agency ☐ School District ☐ Other Special District ☐ State Agency ☐ Private Entity

Check Applicable Fees:

☐ Environmental Impact Report \$2606.75 \$  
☒ Negative Declaration \$1876.75 \$ 1876.75  
☐ Application Fee Water Diversion (State Water Resources Control Board Only) \$886.25 \$  
☐ Projects Subject to Certified Regulatory Programs \$886.25 \$  
☒ County Administrative Fee \$50.00 \$ 50.00  
☐ Project that is exempt from fees  
☐ Notice of Exemption  
☐ DFG No Effect Determination (Form Attached)

CR# 659316

TOTAL RECEIVED \$ 1926.75

Signature and title of person receiving payment:

WHITE-PROJECT APPLICANT

YELLOW-DFG/ASB

PINK-LEAD AGENCY

GOLDENROD-COUNTY CLERK

DFG 753.5a (Rev. 11/07)

# **APPENDIX D**

## Section 4 Toxic Risk Assessment

In accordance with Rule 1401, this section includes the results of a toxic risk assessment performed utilizing methodologies in the SCAQMD Risk Assessment Procedures for Rules 1401 and 212 (Version 7.0, July 2005). The analysis was performed on emissions from the proposed new tanks and on the increased toxic emissions resulting from changes in conditions on Tank C-42 allowing it to store multi-products, including gasoline. The proposed new loading rack will be controlled by a common control device with existing loading racks and breakout tanks at the terminal. As demonstrated in Section 3, Emission Estimates, controlled emissions from tanker truck loading will have a net decrease in potential to emit so no toxic risk assessment was performed on these emissions.

### Methodology

The USEPA SCREEN3 Model was used to perform a Tier 3 screening analysis. Using this model, the maximum one-hour concentration was determined based on a conservative set of meteorological conditions. This concentration was calculated based on a release rate of 1 gram/sec. Individual toxic concentrations could then be calculated by multiplying the modeled concentration by the individual component release rate (in grams/second). For annual impacts the concentration is adjusted by multiplying the modeled hourly impact by 0.08 to convert to annual averages from the hourly averages. For chronic and carcinogenic calculations an annual average release rate (of the toxic contaminant) was used based on the emission rate labeled "AA." (As noted above, the "AA" value used for Tank C-42 corresponds to the value used for the proposed new tanks to account for the increased toxics). For acute studies the maximum daily rate, MDC, was utilized (again, C-42 uses the maximum daily rate of the entire emission, not just the difference from diesel to gasoline emissions).

The SCREEN3 output is contained in Appendix C. The tank emissions were modeled as an area source in accordance with Rule 1401 guidance which states: "*An area source is similar to a volume source in that the emissions take place over an area (as opposed to a point such as from a stack). However, in an area source, the pollutants are released at a uniform height. Examples of area sources are storage piles, slag dumps, lagoons or ponds, and liquid spills. Toxic hydrocarbon emissions from open top and floating roof storage tanks are also often treated as elevated area sources. Use Tier 3 or 4 for area sources.*" It should be noted that the maximum impact occurs at a distance of 86 meters from the release point. In most directions, this distance is located within the facility and no receptors are located at this point outside the facility. To determine an appropriate receptor distance for the risk concentrations, the area around the facility was reviewed. The site surrounding the Colton Terminal is heavy industrial within the Agua Mansa Industrial Corridor. There are residences north of Slover Avenue and several residences southwest of the site near the corner of Riverside and Santa Ana Avenue.

The carcinogenic risk is calculated in accordance with the following equation:

$$\text{MICR} = \text{CP} \times \text{AvgConc} \times \text{AF}_M \times \text{DBR} \times \text{EVF} \times \text{MP} \times 10^{-6}$$

Where:

MICR = Potential Carcinogenic Risk  
 CP = Cancer Potency (mg/kg-day)<sup>-1</sup> (from SCAQMD Tables)  
 AvgConc = Annual Average Concentration (ug/m<sup>3</sup>)  
 AF<sub>M</sub> = Adjustment Factor (assumed to be 1 for continuous operation)  
 DBR = Breathing Rate (L/kg-day) (302 for residential/sensitive; 149 worker)  
 EVF = Exposure Value Factor (0.96 for residential/sensitive; 0.38 worker)  
 MP = Multi-pathway factor (1 for TACs studied)  
 10<sup>-6</sup> = Conversion (ug/mg and L/m<sup>3</sup>)

Acute and chronic hazard indices (HIA and HIC) are calculated by dividing the concentration by the appropriate REL (Reference Exposure Level) to demonstrate that the ratio is less than one. To be conservative, the individual HIA and HIC values were summed across all TACs to demonstrate compliance.

### Calculations and Results

Figures 4-1 through 4-4 located at the end of this Section contain the proposed locations of the tanks (including C-42 which has not yet been constructed). Distances to the nearest receptors are indicated on each of the figures for the four tanks. These distances are used to determine the concentration based on the SCREEN3 model and are utilized in the calculations in the toxic risk assessment.

Table 4-1 provides the impacts for each TAC for both one-hour and annual concentrations for off-site worker receptors (107 meters). These results are based on a modeled impact of 597.6 ug/m<sup>3</sup> as the highest short-term (one-hour) impact. Annual impacts are based on the adjustment factor of 0.08 resulting in an annual average impact of 47.81 ug/m<sup>3</sup>. The results in the table are for each of the two ASTs.

Table 4-1 TAC Concentrations at 107 Meters Tanks C-43 and C-45

TAC	Short Term Rate (g/sec)	Short Term Conc (ug/m <sup>3</sup> )	Long Term Rate (g/sec)	Annual Conc (ug/m <sup>3</sup> )
Benzene	2.34E-03	1.396	7.24E-04	0.035
Hexane	4.15E-03	2.482	1.29E-03	0.062
Toluene	3.37E-03	2.017	1.05E-03	0.050
Xylenes	1.30E-03	0.776	4.02E-04	0.019
Ethylbenzene	2.60E-04	0.155	8.05E-05	0.004
Naphthalene	1.30E-04	0.078	4.02E-05	0.002

Table 4-2 provides the impacts for each TAC for both one-hour and annual concentrations for off-site worker receptors (155 meters). These results are based on a modeled impact of 540.5 ug/m<sup>3</sup> as the highest short-term (one-hour) impact. Annual impacts are based on the adjustment factor of 0.08 resulting in an annual average impact of 43.24 ug/m<sup>3</sup>. The results are for a single AST.



Table 4-2 TAC Concentrations at 155 Meters Tank C-44

TAC	Short Term Rate (g/sec)	Short Term Conc ( $\mu\text{g}/\text{m}^3$ )	Long Term Rate (g/sec)	Annual Conc ( $\mu\text{g}/\text{m}^3$ )
Benzene	2.34E-03	1.263	7.24E-04	0.031
Hexane	4.15E-03	2.245	1.29E-03	0.056
Toluene	3.37E-03	1.824	1.05E-03	0.045
Xylenes	1.30E-03	0.702	4.02E-04	0.017
Ethylbenzene	2.60E-04	0.140	8.05E-05	0.003
Naphthalene	1.30E-04	0.070	4.02E-05	0.002

Table 4-3 provides the impacts for each TAC for both one-hour and annual concentrations for off-site worker receptors (205 meters). These results are based on a modeled impact of  $478.9 \mu\text{g}/\text{m}^3$  as the highest short-term (one-hour) impact. Annual impacts are based on the adjustment factor of 0.08 resulting in an annual average impact of  $38.31 \mu\text{g}/\text{m}^3$ . The results are for a single AST.

Table 4-3 TAC Concentrations at 205 Meters Tank 42

TAC	Short Term Rate (g/sec)	Short Term Conc ( $\mu\text{g}/\text{m}^3$ )	Long Term Rate (g/sec)	Annual Conc ( $\mu\text{g}/\text{m}^3$ )
Benzene	2.34E-03	1.119	7.24E-04	0.028
Hexane	4.15E-03	1.989	1.29E-03	0.049
Toluene	3.37E-03	1.616	1.05E-03	0.040
Xylenes	1.30E-03	0.622	4.02E-04	0.015
Ethylbenzene	2.60E-04	0.124	8.05E-05	0.003
Naphthalene	1.30E-04	0.062	4.02E-05	0.002

Table 4-4 provides the impacts for each TAC for both one-hour and annual concentrations for residential and sensitive receptors (313 meters). These results are based on a modeled impact of  $305.2 \mu\text{g}/\text{m}^3$  as the highest short-term (one-hour) impact. Annual impacts are based on the adjustment factor of 0.08 resulting in an annual average impact of  $24.42 \mu\text{g}/\text{m}^3$ . The results are for a single AST.

Table 4-4 TAC Concentrations at 313 Meters Tank C-43

TAC	Short Term Rate (g/sec)	Short Term Conc ( $\mu\text{g}/\text{m}^3$ )	Long Term Rate (g/sec)	Annual Conc ( $\mu\text{g}/\text{m}^3$ )
Benzene	2.34E-03	0.713	7.24E-04	0.018
Hexane	4.15E-03	1.268	1.29E-03	0.031
Toluene	3.37E-03	1.030	1.05E-03	0.026
Xylenes	1.30E-03	0.396	4.02E-04	0.010
Ethylbenzene	2.60E-04	0.079	8.05E-05	0.002
Naphthalene	1.30E-04	0.040	4.02E-05	0.001

Table 4-5 provides the impacts for each TAC for both one-hour and annual concentrations for residential and sensitive receptors (378 meters). These results are based on a modeled impact of  $236.6 \mu\text{g}/\text{m}^3$  as the highest short-term (one-hour) impact. Annual impacts are based on the adjustment factor of 0.08 resulting in an annual average impact of  $18.93 \mu\text{g}/\text{m}^3$ . The results are for a single AST.

Table 4-5 TAC Concentrations at 378 Meters Tank C-44

TAC	Short Term Rate (g/sec)	Short Term Conc ( $\mu\text{g}/\text{m}^3$ )	Long Term Rate (g/sec)	Annual Conc ( $\mu\text{g}/\text{m}^3$ )
Benzene	2.34E-03	0.553	7.24E-04	0.014
Hexane	4.15E-03	0.983	1.29E-03	0.024
Toluene	3.37E-03	0.798	1.05E-03	0.020
Xylenes	1.30E-03	0.307	4.02E-04	0.008
Ethylbenzene	2.60E-04	0.061	8.05E-05	0.002
Naphthalene	1.30E-04	0.031	4.02E-05	0.001

Table 4-6 provides the impacts for each TAC for both one-hour and annual concentrations for residential and sensitive receptors (375 meters). These results are based on a modeled impact of  $239.2 \mu\text{g}/\text{m}^3$  as the highest short-term (one-hour) impact. Annual impacts are based on the adjustment factor of 0.08 resulting in an annual average impact of  $19.14 \mu\text{g}/\text{m}^3$ . The results are for a single AST.

Table 4-6 TAC Concentrations at 375 Meters Tank C-45

TAC	Short Term Rate (g/sec)	Short Term Conc ( $\mu\text{g}/\text{m}^3$ )	Long Term Rate (g/sec)	Annual Conc ( $\mu\text{g}/\text{m}^3$ )
Benzene	2.34E-03	0.559	7.24E-04	0.014
Hexane	4.15E-03	0.993	1.29E-03	0.025
Toluene	3.37E-03	0.807	1.05E-03	0.020
Xylenes	1.30E-03	0.310	4.02E-04	0.008
Ethylbenzene	2.60E-04	0.062	8.05E-05	0.002
Naphthalene	1.30E-04	0.031	4.02E-05	0.001

Table 4-7 provides the impacts for each TAC for both one-hour and annual concentrations for residential and sensitive receptors (390 meters). These results are based on a modeled impact of  $226.4 \mu\text{g}/\text{m}^3$  as the highest short-term (one-hour) impact. Annual impacts are based on the adjustment factor of 0.08 resulting in an annual average impact of  $18.11 \mu\text{g}/\text{m}^3$ . The results are for a single AST.

Table 4-7 TAC Concentrations at 390 meter Tank C-42

TAC	Short Term Rate (g/sec)	Short Term Conc (ug/m <sup>3</sup> )	Long Term Rate (g/sec)	Annual Conc (ug/m <sup>3</sup> )
Benzene	2.34E-03	0.529	7.24E-04	0.013
Hexane	4.15E-03	0.940	1.29E-03	0.023
Toluene	3.37E-03	0.764	1.05E-03	0.019
Xylenes	1.30E-03	0.294	4.02E-04	0.007
Ethylbenzene	2.60E-04	0.059	8.05E-05	0.001
Naphthalene	1.30E-04	0.029	4.02E-05	0.001

Table 4-8 presents the results for the MIRC calculation for residential/sensitive receptors at the distance of 313 meters from Tank C-43.

Table 4-8 MIRC for Residential/Sensitive Receptors Tank C-43

TAC	CP	AvgConc	AF	DBR	EVF	MP	Conv	MIRC
Benzene	0.1	0.019	1	302	0.96	1	10 <sup>-6</sup>	5.13 E-07
Naphthalene	0.12	0.001	1	302	0.96	1	10 <sup>-6</sup>	3.42 E-08

Table 4-9 presents the results for the MIRC calculation for residential/sensitive receptors at the distance of 378 meters from Tank C-44.

Table 4-9 MIRC for Residential/Sensitive Receptors Tank C-44

TAC	CP	AvgConc	AF	DBR	EVF	MP	Conv	MIRC
Benzene	0.1	0.014	1	302	0.96	1	10 <sup>-6</sup>	3.97 E-07
Naphthalene	0.12	0.001	1	302	0.96	1	10 <sup>-6</sup>	2.65 E-08

Table 4-10 presents the results for the MIRC calculation for residential/sensitive receptors at the distance of 375 meters Tank C-45.

Table 4-10 MIRC for Residential/Sensitive Receptors Tank C-45

TAC	CP	AvgConc	AF	DBR	EVF	MP	Conv	MIRC
Benzene	0.1	0.014	1	302	0.96	1	10 <sup>-6</sup>	4.02 E-07
Naphthalene	0.12	0.001	1	302	0.96	1	10 <sup>-6</sup>	2.68 E-08

Table 4-11 presents the results for the MIRC calculation for residential/sensitive receptors at the distance of 390 meters from Tank C-42.

Table 4-11 MIRC for Residential/Sensitive Receptors Tank C-42

TAC	CP	AvgConc	AF	DBR	EVF	MP	Conv	MIRC
Benzene	0.1	0.013	1	302	0.96	1	10 <sup>-6</sup>	3.80 E-07
Naphthalene	0.12	0.001	1	302	0.96	1	10 <sup>-6</sup>	2.54 E-08

4.05 E -7

Table 4-12 presents the results for the MIRC calculation for off-site worker receptors at the distance of 107 meters from tanks C-43 and/or C-45. The calculated MIRC in the table is for one tank.

Table 4-12 MIRC for Off-Site Worker Receptors Tanks C-43 and C-45

TAC	CP	AvgConc	AF	DBR	EVF	MP	Conv	MIRC
Benzene	0.1	0.035	1	149	0.38	1	10 <sup>-6</sup>	1.96 E-07
Naphthalene	0.12	0.002	1	149	0.38	1	10 <sup>-6</sup>	1.31 E-08

2.09 E -7

Table 4-13 presents the results for the MIRC calculation for off-site worker receptors at the distance of 155 meters from Tank C-44.

Table 4-13 MIRC for Off-Site Worker Receptors Tank C-44

TAC	CP	AvgConc	AF	DBR	EVF	MP	Conv	MIRC
Benzene	0.1	0.031	1	149	0.38	1	10 <sup>-6</sup>	1.77 E-07
Naphthalene	0.12	0.002	1	149	0.38	1	10 <sup>-6</sup>	1.82 E-08

1.95 E -7

Table 4-14 presents the results for the MIRC calculation for off-site worker receptors at the distance of 205 meters from Tank C-42.

Table 4-14 MIRC for Off-Site Worker Receptors Tank 42

TAC	CP	AvgConc	AF	DBR	EVF	MP	Conv	MIRC
Benzene	0.1	0.028	1	149	0.38	1	10 <sup>-6</sup>	1.57 E-07
Naphthalene	0.12	0.002	1	149	0.38	1	10 <sup>-6</sup>	1.05 E-08

1.68 E -7

Table 4-15 presents the results of the HIC calculation for off-site workers for the emissions from tanks C-43 and C-45. The calculated ratio is for a single tank.

Table 4-15 HIC Results for Off-Site Worker Tanks C-43 and C-45

Contaminant	Concentration	REL	HIC
Benzene	0.035	6.00 E+01	5.77 E-04
Hexane	0.062	7.00 E+03	8.79 E-06
Toluene	0.050	3.00 E+02	1.67 E-04
Xylenes	0.019	7.00 E+02	2.75 E-05
Ethylbenzene	0.004	2.00 E+03	1.92 E-06
Naphthalene	0.002	9.00 E+00	2.14 E-04
Combined Results			9.96 E-04

Table 4-16 presents the results of the HIC calculation for off-site workers for the emissions from Tank C-44.

Table 4-16 HIC Results for Off-Site Worker Tank C-44

Contaminant	Concentration	REL	HIC
Benzene	0.031	6.00 E+01	5.22 E-04
Hexane	0.056	7.00 E+03	7.95 E-06
Toluene	0.045	3.00 E+02	1.51 E-04
Xylenes	0.017	7.00 E+02	2.49 E-05
Ethylbenzene	0.003	2.00 E+03	1.74 E-06
Naphthalene	0.002	9.00 E+00	1.93 E-04
Combined Results			9.00 E-04

Table 4-17 presents the results of the HIC calculation for off-site workers for the emissions from Tank C-42.

Table 4-17 HIC Results for Off-Site Worker Tank C-42

Contaminant	Concentration	REL	HIC
Benzene	0.028	6.00 E+01	4.62 E-04
Hexane	0.049	7.00 E+03	7.05 E-06
Toluene	0.040	3.00 E+02	1.34 E-04
Xylenes	0.015	7.00 E+02	2.20 E-05
Ethylbenzene	0.003	2.00 E+03	1.54 E-06
Naphthalene	0.002	9.00 E+00	1.71 E-04
Combined Results			7.98 E-04

Table 4-18 presents the results of the HIC calculation for residential/sensitive receptors for the emissions from Tank C-43.

**Table 4-18 HIC Results for Residential/Sensitive Receptors Tank C-43**

Contaminant	Concentration	REL	HIC
Benzene	0.018	6.00 E+01	2.95 E-04
Hexane	0.031	7.00 E+03	4.49 E-06
Toluene	0.026	3.00 E+02	8.51 E-05
Xylenes	0.010	7.00 E+02	1.40 E-05
Ethylbenzene	0.002	2.00 E+03	9.82 E-07
Naphthalene	0.001	9.00 E+00	1.09 E-04
Combined Results			5.08 E-04

Table 4-19 presents the results of the HIC calculation for residential/sensitive receptors for the emissions from Tank C-44.

**Table 4-19 HIC Results for Residential/Sensitive Receptors Tank C-44**

Contaminant	Concentration	REL	HIC
Benzene	0.014	6.00 E+01	2.28 E-04
Hexane	0.024	7.00 E+03	3.48 E-06
Toluene	0.020	3.00 E+02	6.60 E-05
Xylenes	0.008	7.00 E+02	1.09 E-05
Ethylbenzene	0.002	2.00 E+03	7.61 E-07
Naphthalene	0.001	9.00 E+00	8.46 E-05
Combined Results			3.94 E-04

Table 4-20 presents the results of the HIC calculation for residential/sensitive receptors for the emissions from Tank C-45.

**Table 4-20 HIC Results for Residential/Sensitive Receptors Tank C-45**

Contaminant	Concentration	REL	HIC
Benzene	0.014	6.00 E+01	2.31 E-04
Hexane	0.025	7.00 E+03	3.52 E-06
Toluene	0.020	3.00 E+02	6.67 E-05
Xylenes	0.008	7.00 E+02	1.10 E-05
Ethylbenzene	0.002	2.00 E+03	7.70 E-07
Naphthalene	0.001	9.00E+00	8.55 E-05
Combined Results			3.99 E-04

Table 4-21 presents the results of the HIC calculation for residential/sensitive receptors for the emissions from Tank C-42.

Table 4-21 HIC Results for Residential/Sensitive Receptors Tank 42

Contaminant	Concentration	REL	HIC
Benzene	0.013	6.00 E+01	2.19 E-04
Hexane	0.023	7.00 E+03	3.33 E-06
Toluene	0.019	3.00 E+02	6.32 E-05
Xylenes	0.007	7.00 E+02	1.04 E-05
Ethylbenzene	0.001	2.00 E+03	7.29 E-07
Naphthalene	0.001	9.00 E+00	8.10 E-05
Combined Results			3.77 E-04

Table 4-22 presents the results of the HIA calculation for off-site workers for the emissions from tanks C-43 and C-45. The calculated HIA is for each of the two tanks.

Table 4-22 HIA Results for Off-Site Worker Tanks C-43 and C-45

Contaminant	Concentration	REL	HIA
Benzene <sup>1</sup>	1.396	1.30 E+03	1.07E-03
Toluene	2.017	3.70 E+04	5.45E-05
Xylenes	0.776	2.20 E+04	3.53E-05
Combined Results			1.16E-03

Note 1 – Since benzene's acute risk is based on a 6-hr average, an adjustment factor can be utilized to calculate the final HIA. Given the already low HIA, the adjustment factor was not used.

Table 4-23 presents the results of the HIA calculation for off-site workers for the emissions from Tank C-44.

Table 4-23 HIA Results for Off-Site Worker Tanks C-44

Contaminant	Concentration	REL	HIA
Benzene <sup>1</sup>	1.263	1.30E+03	9.71E-04
Toluene	1.824	3.70E+04	4.93E-05
Xylenes	0.702	2.20E+04	3.19E-05
Combined Results			1.05E-03

Note 1 – Since benzene's acute risk is based on a 6-hr average, an adjustment factor can be utilized to calculate the final HIA. Given the already low HIA, the adjustment factor was not used.

Table 4-24 presents the results of the HIA calculation for off-site workers for the emissions from Tank C-42.

Table 4-24 HIA Results for Off-Site Worker Tanks C-42

Contaminant	Concentration	REL	HIA
Benzene <sup>1</sup>	1.119	1.30 E+03	8.61E-04
Toluene	1.616	3.70 E+04	4.37E-05
Xylenes	0.622	2.20 E+04	1.34E-05
Combined Results			9.33E-04

Note 1 – Since benzene's acute risk is based on a 6-hr average, an adjustment factor can be utilized to calculate the final HIA. Given the already low HIA, the adjustment factor was not used.

Table 4-25 presents the results of the HIA calculation for residential/sensitive receptors for the emissions from Tank C-43.

Table 4-25 HIA Results for Residential/Sensitive Receptors Tank C-43

Contaminant	Concentration	REL	HIA
Benzene <sup>1</sup>	0.713	1.30 E+03	5.48E-04
Toluene	1.030	3.70 E+04	2.78E-05
Xylenes	0.396	2.20 E+04	1.80E-05
Combined Results			5.94E-04

Note 1 – Since benzene's acute risk is based on a 6-hr average, an adjustment factor can be utilized to calculate the final HIA. Given the already low HIA, the adjustment factor was not used.

Table 4-26 presents the results of the HIA calculation for residential/sensitive receptors for the emissions from Tank C-44.

Table 4-26 HIA Results for Residential/Sensitive Receptors Tank C-44

Contaminant	Concentration	REL	HIA
Benzene <sup>1</sup>	0.553	1.30 E+03	4.25E-04
Toluene	0.798	3.70 E+04	2.16E-05
Xylenes	0.307	2.20 E+04	1.40E-05
Combined Results			4.61E-04

Note 1 – Since benzene's acute risk is based on a 6-hr average, an adjustment factor can be utilized to calculate the final HIA. Given the already low HIA, the adjustment factor was not used.

Table 4-27 presents the results of the HIA calculation for residential/sensitive receptors for the emissions from Tank C-45.

Table 4-27 HIA Results for Residential/Sensitive Receptors Tank C-45

Contaminant	Concentration	REL	HIA
Benzene <sup>1</sup>	0.559	1.30 E+03	4.30E-04
Toluene	0.807	3.70 E+04	2.18E-05
Xylenes	0.310	2.20 E+04	1.41E-05
Combined Results			4.66E-04

Note 1 – Since benzene's acute risk is based on a 6-hr average, an adjustment factor can be utilized to calculate the final HIA. Given the already low HIA, the adjustment factor was not used.



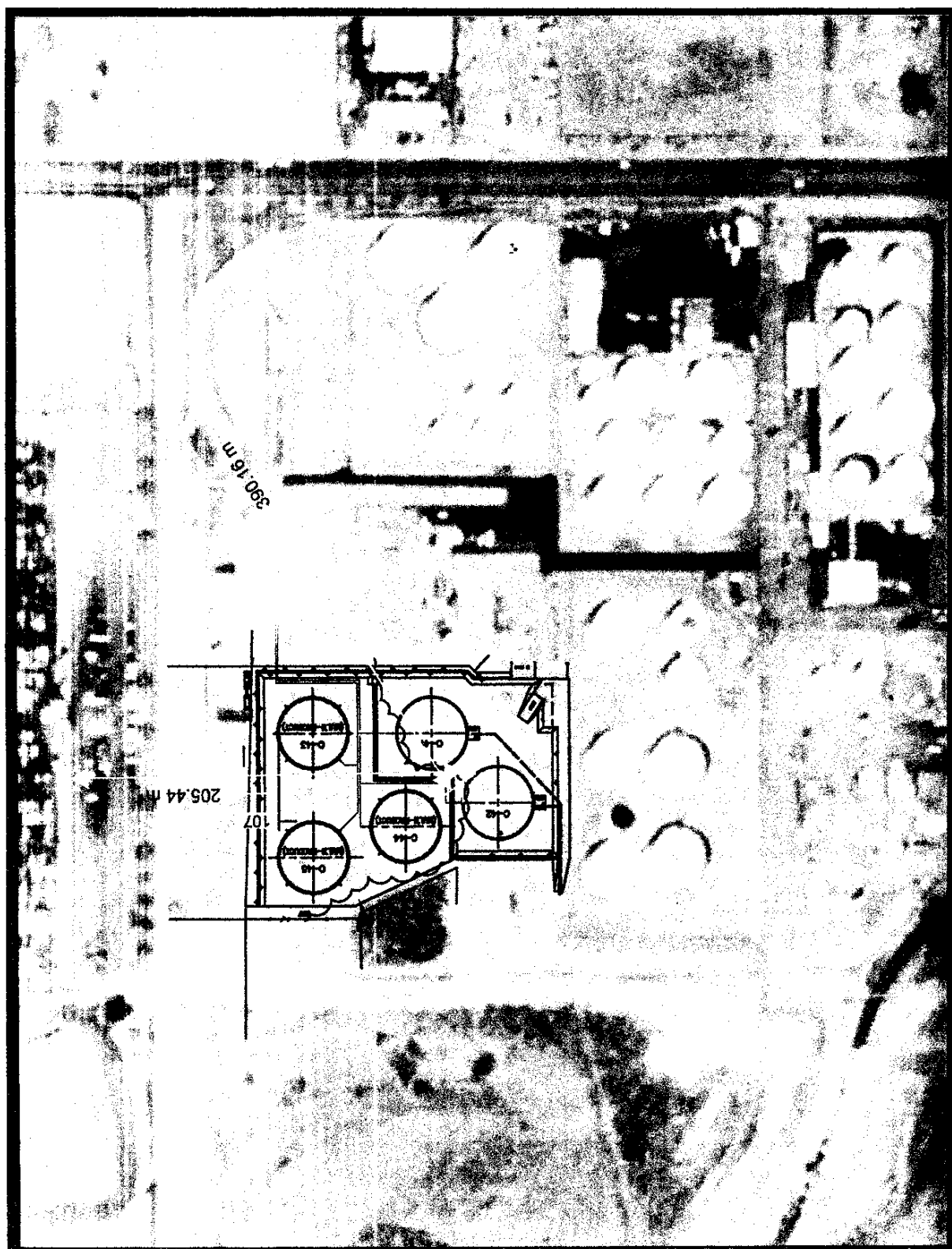
Table 4-28 presents the results of the HIA calculation for residential/sensitive receptors for the emissions from Tank C-42.

Table 4-28 HIA Results for Residential/Sensitive Receptors Tank C-42

Contaminant	Concentration	REL	HIA
Benzene <sup>1</sup>	0.529	1.30 E+03	4.07E-04
Toluene	0.764	3.70 E+04	2.06E-05
Xylenes	0.294	2.20 E+04	1.34E-05
Combined Results			4.41E-04

Note 1 – Since benzene's acute risk is based on a 6-hr average, an adjustment factor can be utilized to calculate the final HIA. Given the already low HIA, the adjustment factor was not used.

Since all risk indices are below the threshold levels, no significant impact is predicted and no further analysis is required.

$$v_{ij} = 1;$$


Appendix C  
Screen3 Model

07/09/07  
13:51:40

\*\*\* SCREEN3 MODEL RUN \*\*\*  
\*\*\* VERSION DATED 96043 \*\*\*

Colton 3 Tank and Rack

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = AREA  
EMISSION RATE (G/(S-M\*\*2)) = .917000E-03  
SOURCE HEIGHT (M) = 14.6300  
LENGTH OF LARGER SIDE (M) = 32.4150  
LENGTH OF SMALLER SIDE (M) = 32.4150  
RECEPTOR HEIGHT (M) = .0000  
URBAN/RURAL OPTION = URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.  
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

BUOY. FLUX = .000 M\*\*4/S\*\*3; MOM. FLUX = .000 M\*\*4/S\*\*2.

\*\*\* FULL METEOROLOGY \*\*\*

\*\*\*\*\*  
\*\*\* SCREEN AUTOMATED DISTANCES \*\*\*  
\*\*\*\*\*

\*\*\* TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES \*\*\*

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
1.	3.904	1	1.0	1.1	320.0	14.63	45.
100.	622.8	4	1.0	1.1	320.0	14.63	43.
200.	487.6	5	1.0	1.1	10000.0	14.63	43.
300.	322.1	5	1.0	1.1	10000.0	14.63	34.
400.	218.5	5	1.0	1.1	10000.0	14.63	1.
500.	157.6	5	1.0	1.1	10000.0	14.63	40.
600.	119.9	5	1.0	1.1	10000.0	14.63	31.
700.	94.92	5	1.0	1.1	10000.0	14.63	39.
800.	77.60	5	1.0	1.1	10000.0	14.63	3.
900.	65.00	5	1.0	1.1	10000.0	14.63	2.
1000.	55.49	5	1.0	1.1	10000.0	14.63	12.
1100.	48.16	5	1.0	1.1	10000.0	14.63	24.
1200.	42.36	5	1.0	1.1	10000.0	14.63	27.
1300.	37.68	5	1.0	1.1	10000.0	14.63	32.
1400.	33.84	5	1.0	1.1	10000.0	14.63	29.
1500.	30.65	5	1.0	1.1	10000.0	14.63	14.
1600.	27.96	5	1.0	1.1	10000.0	14.63	10.
1700.	25.66	5	1.0	1.1	10000.0	14.63	8.
1800.	23.68	5	1.0	1.1	10000.0	14.63	5.
1900.	21.97	5	1.0	1.1	10000.0	14.63	1.
2000.	20.46	5	1.0	1.1	10000.0	14.63	1.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

# APPENDIX E

SFPP, L.P.  
Colton Terminal  
SCAQMD ID# 800129  
Expansion Project

**Executive Summary**

**Sources & Emissions**

The SFPP, L.P. (SFPP) Colton Terminal Expansion Project consists of the construction of one two lane loading rack and three aboveground storage tanks each with a nominal capacity of 88,000 barrels. Peripheral and support equipment such as a loading rack sump, pumps, and associated piping will be constructed in conjunction with the tanks and rack.

The new aboveground storage tanks will each have an internal floating roof and will be suitable for storage of numerous petroleum products including, but not limited to, gasoline, diesel, jet fuel, Transmix, and denatured ethanol. The tanks will not be breakout tanks and, after initial fill, will remain “on-float” except for maintenance, repair, and out-of-service inspections.

In addition to the new equipment, the project encompasses a change of condition for one additional aboveground storage tank (going from diesel to multi-product service), modification of the existing vapor control system (to accommodate the new loading rack vapors, to meet BACT requirements for loading rack emissions, and to mitigate potential emissions from increased throughput and other sources), and modification of three existing loading racks (to meet more stringent limits required by the mitigation referred to previously and to reduce throughput on two of the racks to assist in the mitigation measures). Finally, the application also requests adding two existing surge vessels to the vapor control system description. These vessels will be connected to the vapor processing system to abate emissions when transferring product from the breakout tanks to the pipeline through these vessels. This action will have no impact on emissions as the vapors generated by this action will be part of total throughput already limited by conditions in the permit.

In addition to the mitigation measures cited earlier and in response to litigation vacating (at least temporarily) concurrent emission reductions in SCAQMD Rule 1304, the project is providing emission reduction credits (ERCs) for VOC for all new sources. These sources and the corresponding VOC emissions are shown in the following table.

Emission Source	VOC Emissions, lbs/day
Change of Condition AST C-42	12.20
New Construction AST C-43	15.53
New Construction AST C-44	15.53
New Construction AST C-45	15.53
Fugitive Components Associated with AST C-43	0.85
Fugitive Components Associated with AST C-44	0.85
Fugitive Components Associated with AST C-45	0.29
New Loading Rack Sump	0.08
Fugitive Components Associated with New Loading Rack	5.46
New Loading Rack	32.12
TOTAL EMISSION INCREASE (Rounded Up)	99.00
SCAQMD Multiplier	1.2
EMISSION REDUCTION CREDITS REQUIRED	119.00

The emissions in the above table are based on TANKS 4.09d for the ASTs using the total modeled emissions divided by 360 for the daily average. For AST C-42, the existing potential emissions from diesel are subtracted from potential emissions from gasoline to get the daily increase in potential emissions. Fugitive component emissions were determined by using correlation equations to determine the potential leak rate at a 180 ppmv level, consistent with a limit to be imposed on the fugitive components. Emissions from the sump were calculated by using a standard EPA emission factor (from AP-42) times an anticipated worst case monthly throughput. These predicted emissions were reduced by the vapor control efficiency as they are directed through the vapor control system. Loading rack emissions are based on a gasoline (or high vapor pressure petroleum distillate) throughput of 1,600,000 gal/day (30-day average) times an emission limit of 0.02 lbs/1000 gal gasoline loaded (BACT) plus an additional 0.12 lbs/day for additional diesel loading up to a total limit of 2,000,000 gal/day (30 -day average). The 0.12 lbs/day is based on a 99 percent destruction efficiency on diesel vapors from loading.

The vapor control system existing at the Colton Terminal is a John Zink Company thermal oxidizer. This abatement device combusts incoming hydrocarbons from tanker truck loading and, in the process, generates combustion emissions of the criteria pollutants nitrogen oxides (NOx), sulfur oxides (SOx), particulate matter (PM-10), and carbon monoxide. The current abatement device has associated mass emission limits for each of these pollutants on a monthly basis. The project proponent will operate the oxidizer such that these current mass emission limit rates remain. This results in no increase in emissions of these pollutants.

#### **Mitigated Negative Declaration**

The proposed project was certified by the City of Rialto on July 30, 2008 as a Mitigated Negative Declaration (MND). The project as originally conceived utilized concurrent emission reductions to mitigate the emissions from the proposed project to a level below the significance level (55 lbs/day VOC). These emission reductions consisted of the voluntary reduction of the emission limit on existing loading racks.

In addition to the mitigation, the proposed project included “bubbling” three existing loading racks with the proposed new rack to allow the terminal to operate in the most efficient manner. As the emissions from tanker truck loading are directed to a single stack, it doesn’t significantly impact emissions regardless of which rack generates the vapors. Use of a bubble would allow the terminal to minimize its overall throughput requirement (as each loading would not need excess capacity to accommodate individual peaks) and minimize truck congestion.

The overall result of the bubble was an increase in facility throughput of 940,000 gal/day of gasoline (or any product with a lower vapor pressure). The pre and post project throughputs are contained on the following table.

Loading Rack	Pre-Project, gal/day	Post-Project, gal/day
Rack 1	1,250,300	N/A
Rack 2/3	340,667	N/A
Rack 6	747,853	N/A
Bubble (Racks 1, 2, 6, & 7)	N/A	3,255,000

The emissions associated with the project as proposed in the MND are contained on the following table.

Emission Source	VOC Emissions, lbs/day		
	Pre-Project	Post-Project	Net Change
<b><u>Air Permitting Significant</u></b>			
AST C-42	3.56	20.96	17.40
AST C-43	0.00	20.96	20.96
AST C-44	0.00	20.96	20.96
AST C-45	0.00	20.96	20.96
Fugitive Component Emissions <sup>1</sup>	0.00	1.39	1.39
New & Existing NSR Loading Racks	187.10	65.10	-122.00
Sump	0.00	0.08	0.08
<b><u>CEQA but Non-Air Permitting Significant</u></b>			
All Other Emissions including Mobile	230.83	325.14	94.31
<b>OVERALL NET CHANGE</b>	<b>421.49</b>	<b>475.55</b>	<b>54.06</b>

Note 1 – Fugitive emissions for the MND were based on USEPA emission factors for Marketing Terminals.

### **Litigation Impacts**

Subsequent to the certification of the MND, litigation resulted in eliminating the ability to utilize the concurrent emission reductions as ERCs and the “bubble” concept for the loading racks. The inability to use the concurrent emission reduction as ERCs does not in any way negate the mitigating effect of these voluntary reductions. These voluntary reductions represent mitigation



measures clearly over and above anything required by regulation and properly serve to maintain the integrity of the MND.

The changes caused by the litigation also required the development of an individual limit on the new loading rack. Since this rack will be state-of-the-art, its limit needed to be greater than the 940,000 gal/day added to the bubble contained in the original MND. A total throughput of 2,000,000 gal/day of total product (of which 1,600,000 gal/day could be gasoline or high vapor pressure petroleum distillates; the balance being low vapor pressure product) was ultimately selected for this rack (corresponding to the 32.12 lbs/day in the offset table). To offset this increase, gasoline reductions will be taken on Rack 1 and diesel reductions on Rack 2. These emissions will not be gallon for gallon as other changes from the MND work to offset some of the emission increases associated with the higher throughput while others work to increase some of the emissions from the MND. In the MND, emissions from the ASTs were based on the worst-case month emissions divided by thirty rather than the annual emissions divided by 360. This results in about a 5 lbs/day emission reduction for each tank (these values are reflected in the offset table). In addition, the MND used a maximum vapor pressure when calculating emissions and the revised calculations use an annual average. On the reverse side, fugitive component emissions were revised using correlation coefficients based on a conditioned limit of 180 ppmv. This method results in higher emissions than produced by the use of EPA factors. The revised throughputs and corresponding emissions are shown on the following table.

Loading Rack	Pre-Project		Post-Project	
	Gal/day	Lbs/day	Gal/day	Lbs/day
Rack 1	1,250,300	100.02	950,000	19.00
Rack 2	340,667	27.25	340,667	6.81
Rack 6	747,853	59.83	747,853	14.96
Rack 7 (Diesel)	N/A	N/A	400,000	0.12
Rack 7 (Gas)	N/A	N/A	1,600,000	32.00
<b>TOTALS</b>	<b>2,338,820</b>	<b>187.11</b>	<b>4,038,520</b>	<b>72.89</b>

Note: Pre-project based on 0.08 lbs/1000 gal gasoline; Post-project based on 0.02 lbs/1000 gal gasoline except for diesel which is based on 99% control of emissions from loading. Emissions from loading calculated using AP-42 equation  $12.46(S)(MW)(VP)/T$  where MW = 130, VP = 0.01, S = 1, T = 526°R.

As can be seen from the above table, the post project throughput of 4,038,520 gal/day is 783,520 gal/day greater than the 3,255,000 gal/day contained in the MND bubble. This additional throughput capability could result in a corresponding increase in truck traffic and mobile source emissions. To avoid this possibility and to bring the traffic and mobile source emissions in line with MND levels, SFPP will reduce its diesel loading limit at Rack 2 by this exact amount, 783,520 gal/day. As traffic and mobile source impacts are indifferent to the product loaded, this action will completely offset any corresponding increase in traffic and mobile source emissions. Note that no credit is taken for reduction of diesel at Rack 2. This reduction would be approximately 0.24 lbs/day.

The table below presents the overall emissions based on the removal of the bubble and the revised project basis. These CEQA-related emissions include consideration for the 783,520 gal/day diesel loading reduction referenced above.

Emission Source	VOC Emissions, lbs/day		
	Pre-Project	Post-Project	Net Change
<u>Air Permitting Significant</u>			
AST C-42	3.33	15.53	12.20
AST C-43	0.00	15.53	15.53
AST C-44	0.00	15.53	15.53
AST C-45	0.00	15.53	15.53
Fugitive Component Emissions	0.00	7.45	7.45
New & Existing NSR Loading Racks	187.10	72.89	-114.21
Sump	0.00	0.08	0.08
<u>CEQA but Non-Air Permitting Significant</u>			
All Other Emissions including Mobile	175.26	276.54	101.28
<b>OVERALL NET CHANGE</b>	<b>365.69</b>	<b>419.08</b>	<b>53.39</b>

### **Health Risk Assessment**

Health risk associated with the aboveground storage tanks will be equal or less than that presented earlier. Annual emissions from tanks have not changed and daily emissions have been reduced.

For the loading racks, the net effect of reducing the emission limit from 0.08 lbs/1000 gal gasoline to 0.02 lbs/1000 gal gasoline coupled with a reduction of throughput at Loading Rack 1 results in an emission decrease from truck loading at the subject racks by over 114 lbs/day or over 20 tons/year. As all loading rack emissions are comingled in a vapor holding tank prior to discharge from the thermal oxidizer stack, the origination of the vapors is inconsequential to the risk.

As can be seen from the table, pre-project emissions from loading operations are 187.10 lbs/day while post-project emissions are only 72.89 lbs/day. This change corresponds to a significant decrease in risk from loading operations. The MND contained a similar, though slightly higher, reduction in emissions from loading operations (122.00 lbs/day). The project as proposed either in the MND or subsequent to the litigation results in beneficial changes to health risk.

# **APPENDIX G**



**SFPP, L.P.**  
Operating Partnership

January 12, 2009

South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765  
Attn: Tom Liebel

RE: Statewide Compliance Certification for Calnev Pipe Line, LLC, Kinder Morgan  
Liquids Terminals, LLC, SFPP, L.P. - 1100 Town and Country Road, Orange, CA  
92868

Dear Mr. Liebel:

As required under SCAQMD Rule 1303(b)(5)(B), SFPP, L.P. hereby submits this letter of certification regarding statewide compliance for the above-cited application numbers.

Based on reasonable inquiry and to the best of my knowledge and belief, the major stationary sources, as defined in the jurisdiction where the facilities are located, that are owned and operated by Kinder Morgan Energy Partners (Kinder Morgan) or its affiliated entities Calnev Pipe Line, LLC, Kinder Morgan Liquids Terminals, LLC (KMLT) and SFPP, L.P. (SFPP) in the State of California are subject to emission limitations and are in compliance with, or on a schedule for compliance with, all applicable emission limitations and standards under the Clean Air Act.

The major stationary sources controlled by Kinder Morgan and its affiliates in California are as follows:

- Calnev Pipe Line, LLC Barstow Terminal, Barstow CA
- Calnev Pipe Line, LLC Colton Terminal, Bloomington, CA
- SFPP, L.P. Bradshaw Terminal, Bradshaw, CA
- SFPP, L.P. Chico Terminal, Chico CA
- SFPP, L.P. Colton Terminal, Bloomington, CA
- SFPP, L.P. Concord Station, Concord, CA
- SFPP, L.P. Fresno Terminal, Fresno, CA
- SFPP, L.P. Imperial Terminal, Imperial, CA
- SFPP, L.P. Orange Terminal, Orange, CA
- SFPP, L.P. San Jose Terminal, San Jose, CA
- SFPP, L.P. Watson Station, Carson, CA
- Kinder Morgan Liquids Terminals, LLC Carson Terminal, Carson, CA
- Kinder Morgan Liquids Terminals, LLC LA Harbor Terminal, San Pedro, CA

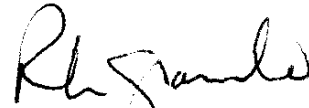
South Coast Air Quality Management District  
January 12, 2009  
Page 2 of 2

As SCAQMD is aware, Kinder Morgan is in the process of permitting the connection of surge vessels to the vapor control systems for vessels located at its SFPP Watson and Colton facilities. Initial applications for these connections were submitted in accordance with a plan given to SCAQMD in July 2007. Kinder Morgan continues to work with the SCAQMD on the issuance of suitable permits for these actions.

After the breakdown repair, Rule 1149 leg cutting and associated fitting changes, Calnev Colton Tank CN-137 has been returned to service on December 10, 2008. A permit modification was submitted to the District on October 23, 2008 for the fitting modification. Kinder Morgan is currently working with SCAQMD on this permit application and expects the permit will be issued soon.

If you have any questions regarding this matter, please call Yijin Wang at (714) 560-4886 or Bob Onufer at (949) 606-3088.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Granado", written over a circular stamp.

Robert Granado  
Director, EH&S